



DISTRICT OF COLUMBIA  
VEHICLE EMISSIONS ENHANCED INSPECTION  
AND MAINTENANCE (I/M) PROGRAM

CALENDAR YEAR 2014 ANNUAL REPORT

July 31, 2015

Monitoring and Assessment Branch  
Air Quality Division  
District Department of the Environment



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## 1 SUMMARY

Vehicle emissions testing in the District of Columbia (District) began in 1983 with an idle test. An enhanced inspection and maintenance (I/M) program with chassis dynamometer testing, known as IM240, was added in 1999. Subsequently, in January 2004, an on-board diagnostic (OBDII) testing protocol was introduced for vehicles of 1996 and later model years. The District's I/M program is a centralized test-only program. It is a sticker based program which is enforced through on street enforcement, and non-synchronized registration denial.

District regulations mandate that all gasoline fueled 1968 and newer gasoline fueled vehicles up to the four most recent model years and up to 26,000 pounds gross vehicle weight rating (GVWR) must pass an emission test as a requirement for vehicle registration. All 1975 and newer model year vehicles receive a visual catalyst inspection and all 1975 to 2004 model year vehicles receive a gas cap test. Inspection frequency is dependent on vehicle type and use, with some vehicles receiving tests more frequently than committed to in the District's State Implementation Plans (SIP). For example, taxis are inspected every six months and commercial vehicles are inspected once every twelve months. Privately-owned personal vehicles require I/M inspections every 24 months. Motorcycles, diesel vehicles and vehicles over 26,000 pounds GVWR are not inspected for emissions. Some vehicles complete inspection and only receive a safety test.

*In the District, taxis are inspected more than once a year. Hence, there are more initial inspections being performed in a single calendar year than there are vehicles. As a result, inspection volumes are reported by number of inspections (initial or otherwise) rather than by number of vehicles receiving an inspection as this one-to-many relationship of inspections to vehicles would underreport the actual inspections being performed and emissions reductions being achieved which are greater than committed to in the SIP.*

During the calendar year 2014, the District operated a single eight-lane test station referred to as the "Southwest" station located at 1001 Half Street SW. The inspection facility and equipment are operated and maintained by the District Department of Motor Vehicles (DMV) staff with contractual assistance (described below). The District Department of the Environment (DDOE) provides regulatory oversight for the program and is responsible for monitoring the effectiveness of the District's I/M program. The Monitoring and Assessment Branch (MAB) in DDOE's Air Quality Division carries out the oversight and reporting functions as stipulated in federal regulations (40 C.F.R. Part 51 Subpart S-Inspection/Maintenance Program Requirements).

Model year 1968 to 1983 non-diesel vehicles under 26,000 pounds GVWR receive a 30 second curb idle test, visual catalyst inspection and fuel cap inspection; model year 1984 to 1995 vehicles receive an IM240 test, visual catalyst inspection and fuel cap inspection, and 1996 and newer vehicles receive an OBDII test, visual catalyst inspection and fuel cap inspection (model years 2004 and newer do not receive a fuel cap inspection). All gasoline vehicles 1968 to current model year in the 8,500 pounds to 26,000 pounds GVWR receive an idle test. Privately-owned vehicles are exempt from receiving a safety inspection, however all other vehicles receive a safety inspection. District rules require each third inspection in a single inspection cycle or an inspection which occurs more than 20 days after the initial inspection to be a complete inspection (all components again). For vehicles which require both a safety and emissions inspection, if the vehicle were to pass emissions but fail for safety and the retest were

the fourth inspection of the vehicle of more than 20 days since the initial inspection, it was more than 20 days or was the fourth inspection, the vehicle could end up receiving two passing emissions inspections. Additional details about the District of Columbia's IM Program are available at: [http:// http://dmv.dc.gov/node/187722](http://dmv.dc.gov/node/187722).

The District's I/M test station has Envirotech Systems Corporation's (Envirotech) idle, OBDII and gas cap emissions test systems and safety testing equipment in all eight lanes. IM240 analyzers are connected to dynamometers in three of the eight lanes. The emissions testing equipment is maintained by Envirotech under contract to DMV. The inspection data are transmitted to the Vehicle Inspection Management System (VIMS) used for inspection station operation, reporting, and management designed by Gordon-Darby Systems Inc. (Gordon-Darby). Information for passing vehicles is sent to the DMV's vehicle registration system named "Destiny" from the VIMS. Program design changes, modeling, equipment testing, data and fraud analysis, and policy analysis are conducted by Revecorp, Inc.

In the IM240 lanes, tests are conducted in a three-position lane with vehicle data keyed into the system at Position 1 as well as a visual inspection including the catalyst inspection. The emissions test (idle, IM240 or OBDII) and gas cap test are conducted at Position 2 (in the middle of the lane). In the five non-IM240 lanes, dual OBDII test equipment (at Positions 1 and 2) allows for more testing capacity as the fleet turns over to more OBDII equipped vehicles. A brake test is conducted at Position 3 on vehicles requiring a safety inspection, and the inspection report and sticker are printed. Inspectors gain access to each lane to perform testing using radio-frequency identification (RFID) cards for increased security and a record of their actions at each position in the lane is sent to VIMS. A limited portion of tests data (that is needed for registration and fee calculation) is transmitted to the DMV's Destiny database as noted above for passing inspections. VIMS is used to perform management functions (test record lookup, inspector password management, inspection report and sticker reprints, etc.), query data, and accomplish required EPA reporting.

#### **Data:**

The current report contains data from the District's I/M program for the calendar year 2014. All of the federally required reporting components are included in this report. The program statistics are readily available on-line in real-time via the District's data vendor Gordon-Darby. This report also includes information about overt audits, fraud detection, and additional studies (parking lot surveys and remote sensing) to help characterize the fleet and compliance. Because the District operates a single centralized facility, it is challenging to set up and perform covert audits. However, with the assistance of an outside consulting firm, DMV's Office of Integrity is currently running triggers on the predominately OBDII vehicle inspection data to identify problematic testing. In addition, a video monitoring system with three cameras in each lane and additional cameras for viewing activity outside of the inspection station are used to record activities. With real-time live access to the data, data triggers and the ability to remotely view activities, the Office of Integrity and DDOE staff are performing covert-equivalent audits as noted by EPA OIAQ in lieu of physical covert audits.

Note that the data was VIN decoded prior to being analyzed, which found some errors in the inspection lanes identifying vehicles. For instance, a 1996 vehicle was recorded as a 1995 in the lane and therefore received an idle inspection as opposed to an IM240 inspection. Therefore, if there are vehicles in the data tables which appear to receive the wrong inspection, this is the reason. The District is currently making changes to the lane software which will prevent this from happening starting in 2016.

### Summary of Findings:

In 2014, the District's inspection program test totals are as below.

- 170,815 emission tests- idle, IM240 or OBDII
  - o (compared to 171,990 in 2013, 166,914 in 2012, 167,031 in 2011, 169,092 in 2010, 175,006 in 2009 and 171,634 in 2008);
- Overall failure rate 20.9 percent (up from 18.2 percent in 2013);
- 142,700 initial tests (i.e., 83 percent of emissions tests were initial tests);
- Initial test failure rate 16.0 percent;
- 135,956 unique vehicles inspected;
- OBDII test failure rate 16.8 percent (11.7 percent for initial tests);
- IM240 test failure rate 36.9 percent (25.0 percent for initial tests);
- Idle test failure rate 11.5 percent (6.9 percent for initial tests);
- Gas cap test failure rate 4.4 percent (4.4 percent for initial tests);
- 149,791 visual catalyst inspections recorded (1975 and newer vehicles); only 7 vehicles failed catalyst inspection.

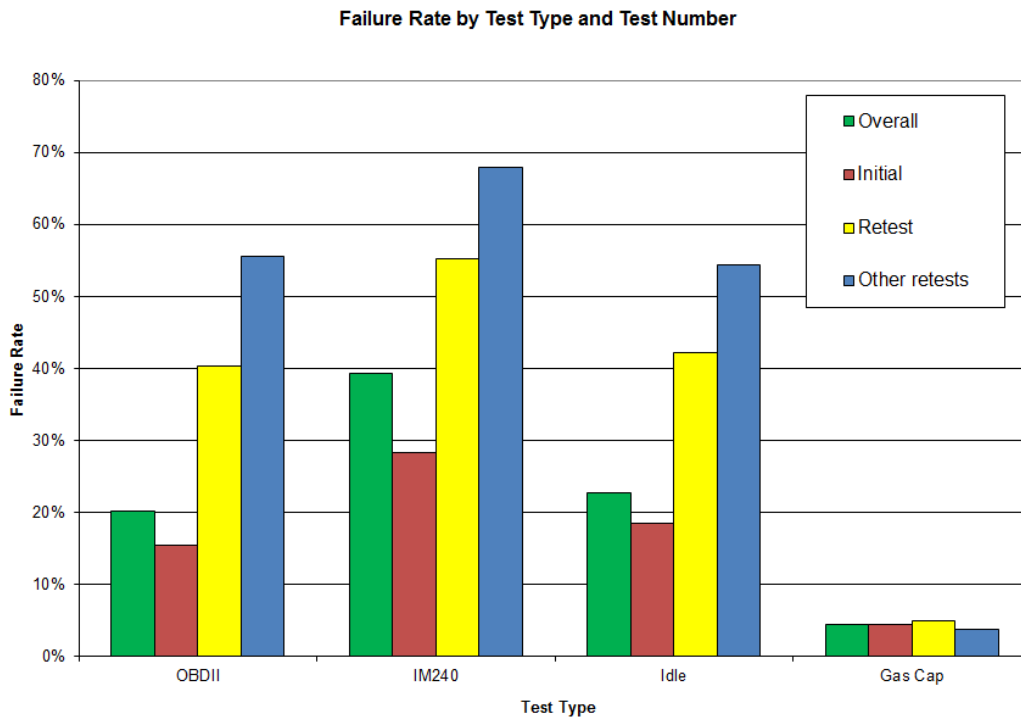
The failure rates by test type and inspection number are presented in Figure 1 below. Failure rates in CY2014 were higher compared to the previous year.

Individual test protocol data tables are given below in Sections 2.1 through 2.3.

The number of vehicles tested by test type and test number:

<b>District of Columbia Emissions Tests 2014</b>								
	<b>All Tests</b>		<b>Initial Tests</b>		<b>First Retests</b>		<b>Second or</b>	
	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>
<b>All Emissions Tests</b>								
<b>Total</b>	170,815		142,700		16,885		11,230	
<b>Pass</b>	135,134	79.1%	119,883	84.0%	10,332	61.2%	4,919	43.8%
<b>Fail</b>	35,681	20.9%	22,817	16.0%	6,553	38.8%	6,311	56.2%
<b>OBDII Inspections</b>								
<b>Total</b>	154,109		130,672		14,002		9,435	
<b>Pass</b>	128,252	83.2%	115,337	88.3%	8,619	61.6%	4,296	45.5%
<b>Fail</b>	25,857	16.8%	15,335	11.7%	5,383	38.4%	5,139	54.5%
<b>IM240 Inspections</b>								
<b>Total</b>	6,449		4,354		989		1,106	
<b>Pass</b>	4,072	63.1%	3,265	75.0%	450	45.5%	357	32.3%
<b>Fail</b>	2,377	36.9%	1,089	25.0%	539	54.5%	749	67.7%
<b>Idle Inspections</b>								
<b>Total</b>	8,953		7,643		748		562	
<b>Pass</b>	7,927	88.5%	7,112	93.1%	514	68.7%	301	53.6%
<b>Fail</b>	1,026	11.5%	531	6.9%	234	31.3%	261	46.4%
<b>Cap Inspections</b>								
<b>Total</b>	48,054		40,460		3,860		3,734	
<b>Pass</b>	45,950	95.6%	38,685	95.6%	3,668	95.0%	3,597	96.3%
<b>Fail</b>	2,104	4.4%	1,775	4.4%	192	5.0%	137	3.7%
<b>Catalyst Inspections</b>								
<b>Total</b>	149,791		140,233		4,122		5,436	
<b>Pass</b>	149,784	100.0%	140,227	100.0%	4,121	100.0%	5,436	100.0%
<b>Fail</b>	7	0.0%	6	0.0%	1	0.0%	-	0.0%

Figure 1



The failure rates by model year are shown in Figure 2a whereas the Figure 2b shows the failure data by model year and test type. The figure shows that from new vehicles to 1984 vehicles, even though the test type changes from OBDII to IM240, there is almost a continuous increase in failure rate up to approximately 50% in 1984.

Figure 2a

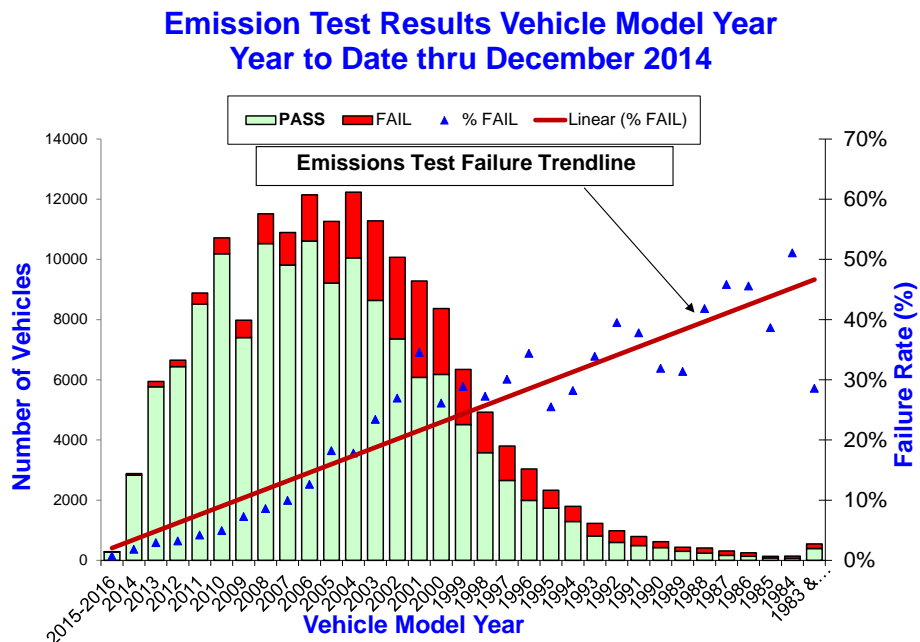
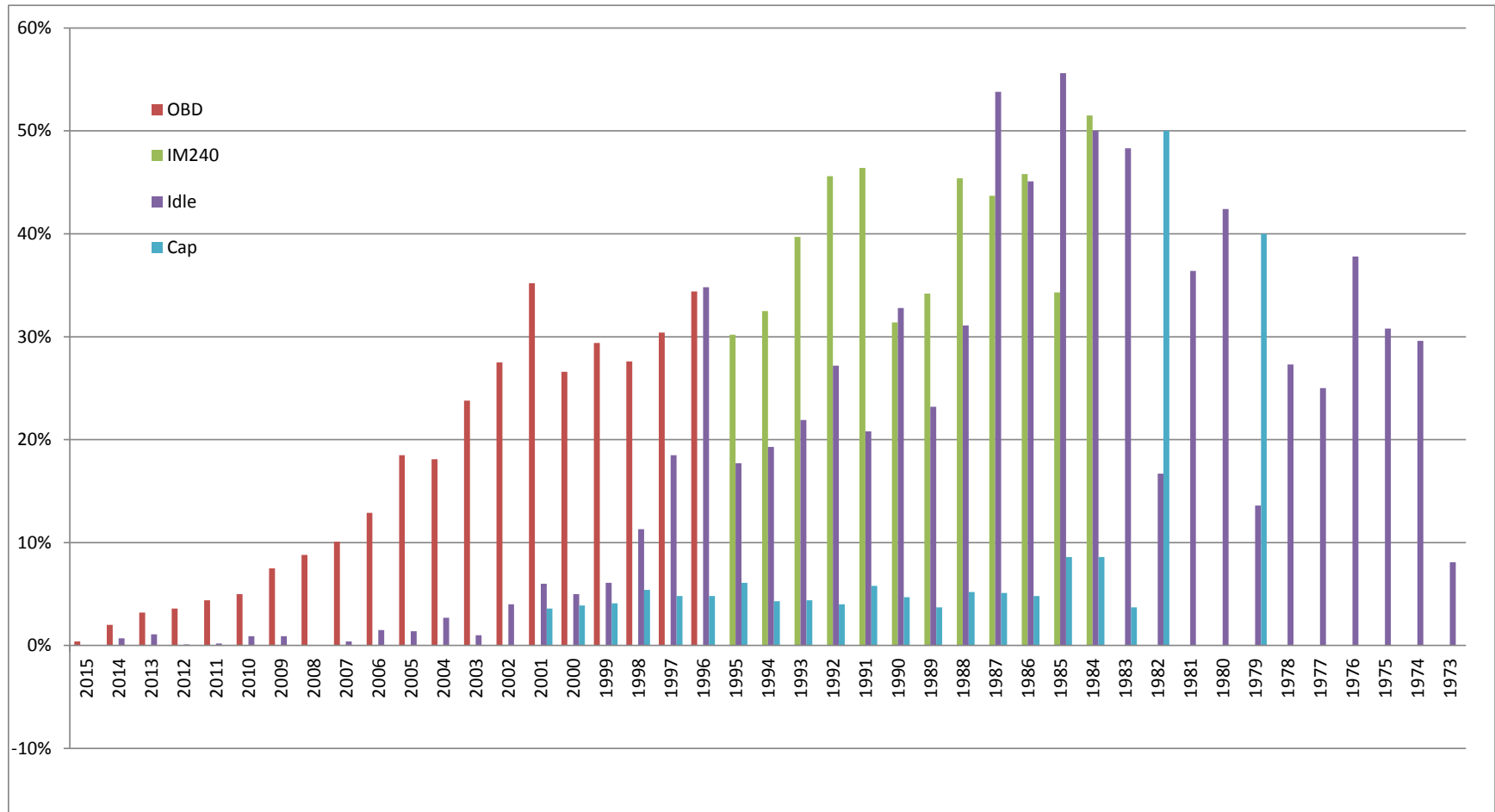


Figure 2b

Failure Rate by Model Year and Test Type



## 2 TEST DATA REPORT

The number of vehicle tests by model year and vehicle type:

CFR 40 Part 51.366(a)(1) - Number of Vehicles Tested by Model Year and Vehicle Type CY 2014											
Vehicle Year	# of LDV's	# of LDT1's	# of LDT2's	# of HDV's	Total Vehicles	Vehicle Year	# of LDV's	# of LDT1's	# of LDT2's	# of HDV's	Total Vehicles
1940	6	-	-	-	6	1978	52	-	-	5	57
1941	-	-	-	-	-	1979	43	-	-	1	44
1942	2	-	-	-	2	1980	37	-	1	11	49
1943	-	-	-	8	8	1981	17	8	-	2	27
1944	-	-	-	2	2	1982	24	6	4	-	34
1945	-	-	-	18	18	1983	59	21	13	8	101
1946	-	-	-	-	-	1984	99	15	11	25	150
1947	-	-	-	-	-	1985	104	33	6	25	168
1948	1	-	-	1	2	1986	172	51	20	25	268
1949	1	-	-	-	1	1987	224	60	31	31	346
1950	2	-	-	-	2	1988	300	80	34	61	475
1951	1	-	-	-	1	1989	297	89	43	62	491
1952	-	-	-	-	-	1990	491	77	52	52	672
1953	-	-	-	-	-	1991	615	131	61	53	860
1954	-	-	-	-	-	1992	712	152	130	67	1,061
1955	2	-	-	-	2	1993	904	201	137	96	1,338
1956	-	-	-	-	-	1994	1,222	301	270	136	1,929
1957	-	-	-	-	-	1995	1,545	443	367	131	2,486
1958	4	-	-	-	4	1996	2,090	706	308	188	3,292
1959	4	-	-	-	4	1997	2,539	932	389	346	4,206
1960	2	-	-	-	2	1998	3,486	1,167	499	355	5,507
1961	1	-	-	-	1	1999	4,416	1,328	819	461	7,024
1962	5	-	-	-	5	2000	6,097	1,873	711	720	9,401
1963	4	-	-	-	4	2001	6,662	2,183	764	898	10,507
1964	14	-	-	-	14	2002	6,833	2,712	883	604	11,032
1965	15	-	-	-	15	2003	8,139	2,512	1,050	600	12,302
1966	18	-	-	-	18	2004	8,053	3,091	1,271	570	12,985
1967	26	-	-	-	26	2005	7,682	3,000	961	806	12,449
1968	23	-	-	-	23	2006	8,007	3,093	1,177	1,231	13,508
1969	14	-	-	-	14	2007	7,615	2,342	1,046	526	11,529
1970	30	-	-	-	30	2008	8,037	2,277	1,354	1,002	12,670
1971	21	-	-	-	21	2009	6,067	1,349	603	658	8,677
1972	26	-	-	1	27	2010	7,145	2,505	1,041	834	11,525
1973	37	-	-	1	38	2011	5,904	1,849	875	851	9,479
1974	26	-	-	3	29	2012	4,378	1,103	626	1,269	7,376
1975	27	-	-	-	27	2013	3,638	1,114	676	1,040	6,468
1976	26	-	-	13	39	2014	1,822	689	283	537	3,331
1977	26	-	-	6	32	2015	167	97	32	58	354
						<b>Total</b>	116,058	37,590	16,548	14,398	184,595

The number of vehicles tested by test type and test number:

<b>District of Columbia Emissions Tests 2014</b>								
	<b>All Tests</b>		<b>Initial Tests</b>		<b>First Retests</b>		<b>Second or</b>	
	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>	<b>Number</b>	<b>Rate</b>
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Individual test protocol data tables are given below in Sections 2.1 through 2.3.

- 2.1 Failing initially, per test type - 1996 and newer vehicles received an OBDII test, 1984 to 1995 received an IM240 (except all-wheel drive vehicles which received an idle test), and 1983 and older vehicles received an idle test.

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Vehicle' 'Initial Test' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	13	5	72.2%	27.8%	18	-	100.0%	0.0%	13	5	72.2%	27.8%	18
1969	9	2	81.8%	18.2%	11	-	100.0%	0.0%	9	2	81.8%	18.2%	11
1970	10	7	58.8%	41.2%	17	-	100.0%	0.0%	10	7	58.8%	41.2%	17
1971	17	1	94.4%	5.6%	18	-	100.0%	0.0%	17	1	94.4%	5.6%	18
1972	21	3	87.5%	12.5%	24	-	100.0%	0.0%	21	3	87.5%	12.5%	24
1973	31	3	91.2%	8.8%	34	-	100.0%	0.0%	31	3	91.2%	8.8%	34
1974	18	1	94.7%	5.3%	19	-	100.0%	0.0%	18	1	94.7%	5.3%	19
1975	12	7	63.2%	36.8%	18	1	94.7%	5.3%	12	7	63.2%	36.8%	19
1976	14	5	73.7%	26.3%	17	2	89.5%	10.5%	14	5	73.7%	26.3%	19
1977	16	4	80.0%	20.0%	20	-	100.0%	0.0%	16	4	80.0%	20.0%	20
1978	32	7	82.1%	17.9%	36	3	92.3%	7.7%	35	4	89.7%	10.3%	39
1979	34	4	89.5%	10.5%	37	1	97.4%	2.6%	34	4	89.5%	10.5%	38
1980	14	6	70.0%	30.0%	15	5	75.0%	25.0%	17	3	85.0%	15.0%	20
1981	10	1	90.9%	9.1%	10	1	90.9%	9.1%	11	-	100.0%	0.0%	11
1982	11	2	84.6%	15.4%	12	1	92.3%	7.7%	12	1	92.3%	7.7%	13
1983	25	10	71.4%	28.6%	31	4	88.6%	11.4%	26	9	74.3%	25.7%	35
1984	4	2	66.7%	33.3%	4	2	66.7%	33.3%	6	-	100.0%	0.0%	6
1985	-	2	0.0%	100.0%	-	2	0.0%	100.0%	1	1	50.0%	50.0%	2
1986	7	1	87.5%	12.5%	7	1	87.5%	12.5%	7	1	87.5%	12.5%	8
1987	5	2	71.4%	28.6%	5	2	71.4%	28.6%	6	1	85.7%	14.3%	7
1988	24	2	92.3%	7.7%	26	-	100.0%	0.0%	24	2	92.3%	7.7%	26
1989	25	2	92.6%	7.4%	27	-	100.0%	0.0%	25	2	92.6%	7.4%	27
1990	56	17	76.7%	23.3%	65	8	89.0%	11.0%	59	14	80.8%	19.2%	73
1991	113	16	87.6%	12.4%	122	7	94.6%	5.4%	114	15	88.4%	11.6%	129
1992	159	28	85.0%	15.0%	169	18	90.4%	9.6%	161	26	86.1%	13.9%	187
1993	199	32	86.1%	13.9%	220	11	95.2%	4.8%	200	31	86.6%	13.4%	231
1994	245	36	87.2%	12.8%	274	7	97.5%	2.5%	245	36	87.2%	12.8%	281
1995	391	36	91.6%	8.4%	420	7	98.4%	1.6%	393	34	92.0%	8.0%	427
Total / Avg:	1,515	244	86.1%	13.9%	1,676	83	95.3%	4.7%	1,537	222	87.4%	12.6%	1,759

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck1' 'Initial Test' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1981	1	3	25.0%	75.0%	1	3	25.0%	75.0%	2	2	50.0%	50.0%	4
1982	6	-	100.0%	0.0%	6	-	100.0%	0.0%	6	-	100.0%	0.0%	6
1983	2	6	25.0%	75.0%	3	5	37.5%	62.5%	4	4	50.0%	50.0%	8
1984	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1985	3	1	75.0%	25.0%	3	1	75.0%	25.0%	3	1	75.0%	25.0%	4
1986	9	4	69.2%	30.8%	10	3	76.9%	23.1%	10	3	76.9%	23.1%	13
1987	10	4	71.4%	28.6%	13	1	92.9%	7.1%	11	3	78.6%	21.4%	14
1988	19	6	76.0%	24.0%	23	2	92.0%	8.0%	21	4	84.0%	16.0%	25
1989	22	3	88.0%	12.0%	24	1	96.0%	4.0%	22	3	88.0%	12.0%	25
1990	19	8	70.4%	29.6%	24	3	88.9%	11.1%	20	7	74.1%	25.9%	27
1991	37	4	90.2%	9.8%	38	3	92.7%	7.3%	39	2	95.1%	4.9%	41
1992	21	2	91.3%	8.7%	22	1	95.7%	4.3%	22	1	95.7%	4.3%	23
1993	37	6	86.0%	14.0%	41	2	95.3%	4.7%	38	5	88.4%	11.6%	43
1994	86	6	93.5%	6.5%	90	2	97.8%	2.2%	86	6	93.5%	6.5%	92
1995	143	28	83.6%	16.4%	162	9	94.7%	5.3%	145	26	84.8%	15.2%	171
<b>Total / Avg:</b>	<b>418</b>	<b>81</b>	<b>83.8%</b>	<b>16.2%</b>	<b>463</b>	<b>36</b>	<b>92.8%</b>	<b>7.2%</b>	<b>432</b>	<b>67</b>	<b>86.6%</b>	<b>13.4%</b>	<b>499</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck2' 'Initial Test' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1982	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1983	2	2	50.0%	50.0%	3	1	75.0%	25.0%	3	1	75.0%	25.0%	4
1984	2	2	50.0%	50.0%	3	1	75.0%	25.0%	3	1	75.0%	25.0%	4
1985	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1986	3	1	75.0%	25.0%	3	1	75.0%	25.0%	4	-	100.0%	0.0%	4
1987	4	2	66.7%	33.3%	4	2	66.7%	33.3%	5	1	83.3%	16.7%	6
1988	6	3	66.7%	33.3%	8	1	88.9%	11.1%	6	3	66.7%	33.3%	9
1989	10	4	71.4%	28.6%	13	1	92.9%	7.1%	10	4	71.4%	28.6%	14
1990	14	3	82.4%	17.6%	16	1	94.1%	5.9%	15	2	88.2%	11.8%	17
1991	10	2	83.3%	16.7%	11	1	91.7%	8.3%	10	2	83.3%	16.7%	12
1992	4	3	57.1%	42.9%	7	-	100.0%	0.0%	4	3	57.1%	42.9%	7
1993	14	7	66.7%	33.3%	20	1	95.2%	4.8%	15	6	71.4%	28.6%	21
1994	34	9	79.1%	20.9%	40	3	93.0%	7.0%	34	9	79.1%	20.9%	43
1995	46	18	71.9%	28.1%	58	6	90.6%	9.4%	47	17	73.4%	26.6%	64
<b>Total / Avg:</b>	<b>151</b>	<b>56</b>	<b>72.9%</b>	<b>27.1%</b>	<b>188</b>	<b>19</b>	<b>90.8%</b>	<b>9.2%</b>	<b>158</b>	<b>49</b>	<b>76.3%</b>	<b>23.7%</b>	<b>207</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Heavy Duty Vehicle' 'Initial Test' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1940	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1941	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1942	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1943	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1944	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1945	3	1	75.0%	25.0%	4	-	100.0%	0.0%	3	1	75.0%	25.0%	4
1946	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1947	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1948	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1949	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1950	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1951	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1952	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1953	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1954	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1955	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1956	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1957	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1958	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1959	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1960	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1961	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1962	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1963	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1964	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1965	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1966	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1967	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2	-	100.0%	0.0%	2
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1977	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1978	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1979	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1980	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1981	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1984	3	3	50.0%	50.0%	4	2	66.7%	33.3%	4	2	66.7%	33.3%	6
1985	3	3	50.0%	50.0%	4	2	66.7%	33.3%	4	2	66.7%	33.3%	6
1986	5	4	55.6%	44.4%	7	2	77.8%	22.2%	7	2	77.8%	22.2%	9
1987	6	3	66.7%	33.3%	7	2	77.8%	22.2%	8	1	88.9%	11.1%	9
1988	7	5	58.3%	41.7%	9	3	75.0%	25.0%	8	4	66.7%	33.3%	12
1989	13	1	92.9%	7.1%	14	-	100.0%	0.0%	13	1	92.9%	7.1%	14
1990	14	3	82.4%	17.6%	15	2	88.2%	11.8%	14	3	82.4%	17.6%	17
1991	17	2	89.5%	10.5%	18	1	94.7%	5.3%	18	1	94.7%	5.3%	19
1992	9	10	47.4%	52.6%	11	8	57.9%	42.1%	9	10	47.4%	52.6%	19
1993	24	5	82.8%	17.2%	26	3	89.7%	10.3%	24	5	82.8%	17.2%	29
1994	41	4	91.1%	8.9%	43	2	95.6%	4.4%	42	3	93.3%	6.7%	45
1995	45	4	91.8%	8.2%	46	3	93.9%	6.1%	46	3	93.9%	6.1%	49
<b>Total / Avg:</b>	<b>199</b>	<b>54</b>	<b>78.7%</b>	<b>21.3%</b>	<b>219</b>	<b>34</b>	<b>86.6%</b>	<b>13.4%</b>	<b>211</b>	<b>42</b>	<b>83.4%</b>	<b>16.6%</b>	<b>253</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Vehicle' 'Initial Test' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	32	15	68.1%	31.9%	39	8	83.0%	17.0%	37	10	78.7%	21.3%	42	5	89.4%	10.6%	47
1985	42	18	70.0%	30.0%	52	8	86.7%	13.3%	52	8	86.7%	13.3%	51	9	85.0%	15.0%	60
1986	66	22	75.0%	25.0%	75	13	85.2%	14.8%	72	16	81.8%	18.2%	80	8	90.9%	9.1%	88
1987	103	23	81.7%	18.3%	115	11	91.3%	8.7%	111	15	88.1%	11.9%	118	8	93.7%	6.3%	126
1988	116	39	74.8%	25.2%	139	16	89.7%	10.3%	127	28	81.9%	18.1%	138	17	89.0%	11.0%	155
1989	150	30	83.3%	16.7%	166	14	92.2%	7.8%	163	17	90.6%	9.4%	167	13	92.8%	7.2%	180
1990	203	38	84.2%	15.8%	226	15	93.8%	6.2%	219	22	90.9%	9.1%	223	18	92.5%	7.5%	241
1991	187	64	74.5%	25.5%	225	26	89.6%	10.4%	208	43	82.9%	17.1%	229	22	91.2%	8.8%	251
1992	234	63	78.8%	21.2%	277	20	93.3%	6.7%	251	46	84.5%	15.5%	266	31	89.6%	10.4%	297
1993	308	79	79.6%	20.4%	359	28	92.8%	7.2%	333	54	86.0%	14.0%	349	38	90.2%	9.8%	387
1994	553	71	88.6%	11.4%	601	23	96.3%	3.7%	574	50	92.0%	8.0%	597	27	95.7%	4.3%	624
1995	691	84	89.2%	10.8%	750	25	96.8%	3.2%	711	64	91.7%	8.3%	737	38	95.1%	4.9%	775
<b>Total / Avg:</b>	<b>2,685</b>	<b>546</b>	<b>83.1%</b>	<b>16.9%</b>	<b>3,024</b>	<b>207</b>	<b>93.6%</b>	<b>6.4%</b>	<b>2,858</b>	<b>373</b>	<b>88.5%</b>	<b>11.5%</b>	<b>2,997</b>	<b>234</b>	<b>92.8%</b>	<b>7.2%</b>	<b>3,231</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck1' 'Initial Test' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1985	13	3	81.3%	18.8%	13	3	81.3%	18.8%	14	2	87.5%	12.5%	16	-	100.0%	0.0%	16
1986	11	5	68.8%	31.3%	14	2	87.5%	12.5%	13	3	81.3%	18.8%	14	2	87.5%	12.5%	16
1987	9	1	90.0%	10.0%	10	-	100.0%	0.0%	10	-	100.0%	0.0%	9	1	90.0%	10.0%	10
1988	13	5	72.2%	27.8%	15	3	83.3%	16.7%	14	4	77.8%	22.2%	17	1	94.4%	5.6%	18
1989	19	11	63.3%	36.7%	27	3	90.0%	10.0%	19	11	63.3%	36.7%	27	3	90.0%	10.0%	30
1990	19	5	79.2%	20.8%	20	4	83.3%	16.7%	20	4	83.3%	16.7%	23	1	95.8%	4.2%	24
1991	21	10	67.7%	32.3%	28	3	90.3%	9.7%	22	9	71.0%	29.0%	27	4	87.1%	12.9%	31
1992	24	23	51.1%	48.9%	34	13	72.3%	27.7%	32	15	68.1%	31.9%	38	9	80.9%	19.1%	47
1993	59	21	73.8%	26.3%	72	8	90.0%	10.0%	62	18	77.5%	22.5%	75	5	93.8%	6.3%	80
1994	90	23	79.6%	20.4%	103	10	91.2%	8.8%	96	17	85.0%	15.0%	105	8	92.9%	7.1%	113
1995	115	23	83.3%	16.7%	127	11	92.0%	8.0%	121	17	87.7%	12.3%	129	9	93.5%	6.5%	138
<b>Total / Avg:</b>	<b>396</b>	<b>130</b>	<b>75.3%</b>	<b>24.7%</b>	<b>466</b>	<b>60</b>	<b>88.6%</b>	<b>11.4%</b>	<b>426</b>	<b>100</b>	<b>81.0%</b>	<b>19.0%</b>	<b>483</b>	<b>43</b>	<b>91.8%</b>	<b>8.2%</b>	<b>526</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck2' 'Initial Test' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1985	1	2	33.3%	66.7%	1	2	33.3%	66.7%	1	2	33.3%	66.7%	1	2	33.3%	66.7%	3
1986	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1987	2	4	33.3%	66.7%	3	3	50.0%	50.0%	4	2	66.7%	33.3%	3	3	50.0%	50.0%	6
1988	7	6	53.8%	46.2%	12	1	92.3%	7.7%	12	1	92.3%	7.7%	8	5	61.5%	38.5%	13
1989	6	2	75.0%	25.0%	7	1	87.5%	12.5%	6	2	75.0%	25.0%	8	-	100.0%	0.0%	8
1990	9	4	69.2%	30.8%	10	3	76.9%	23.1%	9	4	69.2%	30.8%	12	1	92.3%	7.7%	13
1991	6	11	35.3%	64.7%	12	5	70.6%	29.4%	9	8	52.9%	47.1%	10	7	58.8%	41.2%	17
1992	12	18	40.0%	60.0%	20	10	66.7%	33.3%	14	16	46.7%	53.3%	24	6	80.0%	20.0%	30
1993	22	17	56.4%	43.6%	31	8	79.5%	20.5%	25	14	64.1%	35.9%	32	7	82.1%	17.9%	39
1994	49	35	58.3%	41.7%	67	17	79.8%	20.2%	56	28	66.7%	33.3%	66	18	78.6%	21.4%	84
1995	58	44	56.9%	43.1%	82	20	80.4%	19.6%	69	33	67.6%	32.4%	76	26	74.5%	25.5%	102
<b>Total / Avg:</b>	<b>175</b>	<b>143</b>	<b>55.0%</b>	<b>45.0%</b>	<b>248</b>	<b>70</b>	<b>78.0%</b>	<b>22.0%</b>	<b>208</b>	<b>110</b>	<b>65.4%</b>	<b>34.6%</b>	<b>243</b>	<b>75</b>	<b>76.4%</b>	<b>23.6%</b>	<b>318</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Heavy Duty Vehicle' Initial Test CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1986	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1987	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1988	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1989	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3	-	100.0%	0.0%	3
1990	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1991	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1992	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1993	-	3	0.0%	100.0%	1	2	33.3%	66.7%	-	3	0.0%	100.0%	2	1	66.7%	33.3%	3
1994	2	3	40.0%	60.0%	3	2	60.0%	40.0%	3	2	60.0%	40.0%	2	3	40.0%	60.0%	5
1995	1	4	20.0%	80.0%	2	3	40.0%	60.0%	3	2	60.0%	40.0%	2	3	40.0%	60.0%	5
<b>Total / Avg:</b>	<b>5</b>	<b>12</b>	<b>29.4%</b>	<b>70.6%</b>	<b>9</b>	<b>8</b>	<b>52.9%</b>	<b>47.1%</b>	<b>9</b>	<b>8</b>	<b>52.9%</b>	<b>47.1%</b>	<b>9</b>	<b>8</b>	<b>52.9%</b>	<b>47.1%</b>	<b>17</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Vehicle' 'Initial Test' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	1,090	342	76.1%	23.9%	1,423	-	9	99.4%	0.0%	0.6%	1,422	10	99.3%	0.7%
1997	1,440	414	77.7%	22.3%	1,848	-	6	99.7%	0.0%	0.3%	1,848	6	99.7%	0.3%
1998	1,953	549	78.1%	21.9%	2,495	-	7	99.7%	0.0%	0.3%	2,495	7	99.7%	0.3%
1999	2,423	710	77.3%	22.7%	3,119	-	14	99.6%	0.0%	0.4%	3,119	14	99.6%	0.4%
2000	3,521	889	79.8%	20.2%	4,400	-	9	99.8%	0.0%	0.2%	4,399	11	99.8%	0.2%
2001	3,274	1,086	75.1%	24.9%	4,343	-	14	99.7%	0.0%	0.3%	4,343	17	99.6%	0.4%
2002	3,934	1,003	79.7%	20.3%	4,920	-	16	99.7%	0.0%	0.3%	4,921	16	99.7%	0.3%
2003	5,061	1,069	82.6%	17.4%	6,120	-	9	99.9%	0.0%	0.1%	6,117	13	99.8%	0.2%
2004	5,567	856	86.7%	13.3%	6,408	-	13	99.8%	0.0%	0.2%	6,409	14	99.8%	0.2%
2005	5,247	808	86.7%	13.3%	6,042	-	13	99.8%	0.0%	0.2%	6,043	12	99.8%	0.2%
2006	6,179	635	90.7%	9.3%	6,801	-	12	99.8%	0.0%	0.2%	6,802	12	99.8%	0.2%
2007	6,154	488	92.7%	7.3%	6,633	-	9	99.9%	0.0%	0.1%	6,635	7	99.9%	0.1%
2008	6,646	451	93.6%	6.4%	7,083	-	11	99.8%	0.0%	0.2%	7,089	8	99.9%	0.1%
2009	5,134	291	94.6%	5.4%	5,413	-	11	99.8%	0.0%	0.2%	5,414	11	99.8%	0.2%
2010	6,239	257	96.0%	4.0%	6,486	-	9	99.9%	0.0%	0.1%	6,487	9	99.9%	0.1%
2011	5,200	196	96.4%	3.6%	5,390	-	6	99.9%	0.0%	0.1%	5,390	6	99.9%	0.1%
2012	3,965	116	97.2%	2.8%	4,069	-	11	99.7%	0.0%	0.3%	4,070	11	99.7%	0.3%
2013	3,343	79	97.7%	2.3%	3,410	-	10	99.7%	0.0%	0.3%	3,414	8	99.8%	0.2%
2014	1,623	26	98.4%	1.6%	1,648	-	1	99.9%	0.0%	0.1%	1,648	1	99.9%	0.1%
2015	133	1	99.3%	0.7%	134	-	-	100.0%	0.0%	0.0%	134	-	100.0%	0.0%
<b>Total / Avg:</b>	<b>78,126</b>	<b>10,266</b>	<b>88.4%</b>	<b>11.6%</b>	<b>88,185</b>	<b>-</b>	<b>190</b>	<b>99.8%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>88,199</b>	<b>193</b>	<b>99.8%</b>	<b>0.2%</b>

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	1,412	20	98.6%	1.4%	1,227	205	85.7%	14.3%	1,246	5	181	87.0%	0.3%	12.6%	1,432
1997	1,824	30	98.4%	1.6%	1,538	316	83.0%	17.0%	1,712	5	137	92.3%	0.3%	7.4%	1,854
1998	2,477	25	99.0%	1.0%	2,094	408	83.7%	16.3%	2,306	7	189	92.2%	0.3%	7.6%	2,502
1999	3,092	41	98.7%	1.3%	2,633	500	84.0%	16.0%	2,815	15	303	89.8%	0.5%	9.7%	3,133
2000	4,359	51	98.8%	1.2%	3,797	613	86.1%	13.9%	4,017	19	374	91.1%	0.4%	8.5%	4,410
2001	4,305	55	98.7%	1.3%	3,761	599	86.3%	13.7%	3,708	9	643	85.0%	0.2%	14.7%	4,360
2002	4,893	44	99.1%	0.9%	4,391	546	88.9%	11.1%	4,355	11	571	88.2%	0.2%	11.6%	4,937
2003	6,088	42	99.3%	0.7%	5,564	566	90.8%	9.2%	5,494	14	622	89.6%	0.2%	10.1%	6,130
2004	6,389	34	99.5%	0.5%	5,980	443	93.1%	6.9%	5,920	14	489	92.2%	0.2%	7.6%	6,423
2005	6,018	37	99.4%	0.6%	5,641	414	93.2%	6.8%	5,576	13	466	92.1%	0.2%	7.7%	6,055
2006	6,779	35	99.5%	0.5%	6,471	343	95.0%	5.0%	6,438	15	361	94.5%	0.2%	5.3%	6,814
2007	6,615	27	99.6%	0.4%	6,387	255	96.2%	3.8%	6,353	16	273	95.6%	0.2%	4.1%	6,642
2008	7,070	27	99.6%	0.4%	6,898	199	97.2%	2.8%	6,796	17	284	95.8%	0.2%	4.0%	7,097
2009	5,404	21	99.6%	0.4%	5,320	105	98.1%	1.9%	5,214	6	205	96.1%	0.1%	3.8%	5,425
2010	6,483	13	99.8%	0.2%	6,420	76	98.8%	1.2%	6,293	8	195	96.9%	0.1%	3.0%	6,496
2011	5,385	11	99.8%	0.2%	5,356	40	99.3%	0.7%	5,233	2	161	97.0%	0.0%	3.0%	5,396
2012	4,064	17	99.6%	0.4%	4,046	35	99.1%	0.9%	3,982	3	96	97.6%	0.1%	2.4%	4,081
2013	3,409	13	99.6%	0.4%	3,400	22	99.4%	0.6%	3,353	4	65	98.0%	0.1%	1.9%	3,422
2014	1,647	2	99.9%	0.1%	1,645	4	99.8%	0.2%	1,625	2	22	98.5%	0.1%	1.3%	1,649
2015	133	1	99.3%	0.7%	134	-	100.0%	0.0%	134	-	-	100.0%	0.0%	0.0%	134
<b>Total / Avg:</b>	<b>87,846</b>	<b>546</b>	<b>99.4%</b>	<b>0.6%</b>	<b>82,703</b>	<b>5,689</b>	<b>93.6%</b>	<b>6.4%</b>	<b>82,570</b>	<b>185</b>	<b>5,637</b>	<b>93.4%</b>	<b>0.2%</b>	<b>6.4%</b>	<b>88,392</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Truck1' 'Initial Test' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	337	123	73.3%	26.7%	458	-	2	99.6%	0.0%	0.4%	457	3	99.3%	0.7%
1997	486	150	76.4%	23.6%	633	-	3	99.5%	0.0%	0.5%	633	3	99.5%	0.5%
1998	687	168	80.4%	19.6%	854	-	1	99.9%	0.0%	0.1%	854	1	99.9%	0.1%
1999	788	185	81.0%	19.0%	973	-	-	100.0%	0.0%	0.0%	973	-	100.0%	0.0%
2000	1,071	256	80.7%	19.3%	1,324	-	2	99.8%	0.0%	0.2%	1,325	2	99.8%	0.2%
2001	1,008	394	71.9%	28.1%	1,398	-	4	99.7%	0.0%	0.3%	1,397	5	99.6%	0.4%
2002	1,538	388	79.9%	20.1%	1,917	-	8	99.6%	0.0%	0.4%	1,919	7	99.6%	0.4%
2003	1,508	349	81.2%	18.8%	1,852	-	5	99.7%	0.0%	0.3%	1,853	4	99.8%	0.2%
2004	2,169	356	85.9%	14.1%	2,504	-	19	99.2%	0.0%	0.8%	2,507	18	99.3%	0.7%
2005	2,001	348	85.2%	14.8%	2,330	-	18	99.2%	0.0%	0.8%	2,332	17	99.3%	0.7%
2006	2,352	272	89.6%	10.4%	2,619	-	5	99.8%	0.0%	0.2%	2,621	3	99.9%	0.1%
2007	1,949	138	93.4%	6.6%	2,086	-	1	100.0%	0.0%	0.0%	2,086	1	100.0%	0.0%
2008	1,973	104	95.0%	5.0%	2,076	-	1	100.0%	0.0%	0.0%	2,076	1	100.0%	0.0%
2009	1,165	61	95.0%	5.0%	1,222	-	4	99.7%	0.0%	0.3%	1,223	3	99.8%	0.2%
2010	2,286	71	97.0%	3.0%	2,355	-	2	99.9%	0.0%	0.1%	2,355	2	99.9%	0.1%
2011	1,713	37	97.9%	2.1%	1,749	-	1	99.9%	0.0%	0.1%	1,749	1	99.9%	0.1%
2012	1,031	16	98.5%	1.5%	1,046	-	1	99.9%	0.0%	0.1%	1,047	-	100.0%	0.0%
2013	989	35	96.6%	3.4%	1,024	-	-	100.0%	0.0%	0.0%	1,024	-	100.0%	0.0%
2014	630	10	98.4%	1.6%	638	-	2	99.7%	0.0%	0.3%	638	2	99.7%	0.3%
2015	84	-	100.0%	0.0%	84	-	-	100.0%	0.0%	0.0%	84	-	100.0%	0.0%
<b>Total / Av</b>	<b>25,765</b>	<b>3,461</b>	<b>88.2%</b>	<b>11.8%</b>	<b>29,142</b>	<b>-</b>	<b>79</b>	<b>99.7%</b>	<b>0.0%</b>	<b>0.3%</b>	<b>29,153</b>	<b>73</b>	<b>99.8%</b>	<b>0.2%</b>

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	456	4	99.1%	0.9%	371	89	80.7%	19.3%	404	1	55	87.8%	0.2%	12.0%	460
1997	631	5	99.2%	0.8%	527	109	82.9%	17.1%	576	-	60	90.6%	0.0%	9.4%	636
1998	846	9	98.9%	1.1%	725	130	84.8%	15.2%	796	5	54	93.1%	0.6%	6.3%	855
1999	963	10	99.0%	1.0%	852	121	87.6%	12.4%	883	2	88	90.8%	0.2%	9.0%	973
2000	1,317	10	99.2%	0.8%	1,161	166	87.5%	12.5%	1,211	3	113	91.3%	0.2%	8.5%	1,327
2001	1,380	22	98.4%	1.6%	1,176	226	83.9%	16.1%	1,161	4	237	82.8%	0.3%	16.9%	1,402
2002	1,899	27	98.6%	1.4%	1,678	248	87.1%	12.9%	1,719	3	204	89.3%	0.2%	10.6%	1,926
2003	1,842	15	99.2%	0.8%	1,650	207	88.9%	11.1%	1,653	-	204	89.0%	0.0%	11.0%	1,857
2004	2,486	39	98.5%	1.5%	2,282	243	90.4%	9.6%	2,331	8	186	92.3%	0.3%	7.4%	2,525
2005	2,321	28	98.8%	1.2%	2,166	183	92.2%	7.8%	2,118	2	229	90.2%	0.1%	9.7%	2,349
2006	2,607	17	99.4%	0.6%	2,463	161	93.9%	6.1%	2,475	7	142	94.3%	0.3%	5.4%	2,624
2007	2,080	7	99.7%	0.3%	2,016	71	96.6%	3.4%	2,002	3	82	95.9%	0.1%	3.9%	2,087
2008	2,067	10	99.5%	0.5%	2,015	62	97.0%	3.0%	2,023	2	52	97.4%	0.1%	2.5%	2,077
2009	1,220	6	99.5%	0.5%	1,194	32	97.4%	2.6%	1,192	-	34	97.2%	0.0%	2.8%	1,226
2010	2,354	3	99.9%	0.1%	2,335	22	99.1%	0.9%	2,303	2	52	97.7%	0.1%	2.2%	2,357
2011	1,748	2	99.9%	0.1%	1,738	12	99.3%	0.7%	1,724	1	25	98.5%	0.1%	1.4%	1,750
2012	1,045	2	99.8%	0.2%	1,043	4	99.6%	0.4%	1,034	-	13	98.8%	0.0%	1.2%	1,047
2013	1,022	2	99.8%	0.2%	1,010	14	98.6%	1.4%	998	3	23	97.5%	0.3%	2.2%	1,024
2014	637	3	99.5%	0.5%	635	5	99.2%	0.8%	632	1	7	98.8%	0.2%	1.1%	640
2015	84	-	100.0%	0.0%	84	-	100.0%	0.0%	84	-	-	100.0%	0.0%	0.0%	84
<b>Total / Av</b>	<b>29,005</b>	<b>221</b>	<b>99.2%</b>	<b>0.8%</b>	<b>27,121</b>	<b>2,105</b>	<b>92.8%</b>	<b>7.2%</b>	<b>27,319</b>	<b>47</b>	<b>1,860</b>	<b>93.5%</b>	<b>0.2%</b>	<b>6.4%</b>	<b>29,226</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Truck2' 'Initial Test' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	129	54	70.5%	29.5%	181	-	2	98.9%	0.0%	1.1%	181	2	98.9%	1.1%
1997	176	65	73.0%	27.0%	241	-	-	100.0%	0.0%	0.0%	240	1	99.6%	0.4%
1998	230	83	73.5%	26.5%	311	-	2	99.4%	0.0%	0.6%	311	2	99.4%	0.6%
1999	369	143	72.1%	27.9%	509	-	3	99.4%	0.0%	0.6%	509	3	99.4%	0.6%
2000	399	109	78.5%	21.5%	505	-	2	99.6%	0.0%	0.4%	506	2	99.6%	0.4%
2001	356	138	72.1%	27.9%	494	-	-	100.0%	0.0%	0.0%	494	-	100.0%	0.0%
2002	513	122	80.8%	19.2%	629	-	6	99.1%	0.0%	0.9%	630	5	99.2%	0.8%
2003	602	159	79.1%	20.9%	760	-	1	99.9%	0.0%	0.1%	760	1	99.9%	0.1%
2004	902	138	86.7%	13.3%	1,038	-	2	99.8%	0.0%	0.2%	1,038	2	99.8%	0.2%
2005	658	105	86.2%	13.8%	760	-	3	99.6%	0.0%	0.4%	761	2	99.7%	0.3%
2006	847	115	88.0%	12.0%	962	-	-	100.0%	0.0%	0.0%	962	-	100.0%	0.0%
2007	776	94	89.2%	10.8%	867	-	3	99.7%	0.0%	0.3%	867	3	99.7%	0.3%
2008	1,055	98	91.5%	8.5%	1,153	-	-	100.0%	0.0%	0.0%	1,153	-	100.0%	0.0%
2009	458	46	90.9%	9.1%	503	-	1	99.8%	0.0%	0.2%	503	1	99.8%	0.2%
2010	897	38	95.9%	4.1%	933	-	2	99.8%	0.0%	0.2%	934	1	99.9%	0.1%
2011	762	23	97.1%	2.9%	785	-	-	100.0%	0.0%	0.0%	785	-	100.0%	0.0%
2012	505	28	94.7%	5.3%	530	-	3	99.4%	0.0%	0.6%	530	3	99.4%	0.6%
2013	582	23	96.2%	3.8%	604	-	1	99.8%	0.0%	0.2%	604	1	99.8%	0.2%
2014	257	2	99.2%	0.8%	259	-	-	100.0%	0.0%	0.0%	259	-	100.0%	0.0%
2015	30	-	100.0%	0.0%	30	-	-	100.0%	0.0%	0.0%	30	-	100.0%	0.0%
Total / Avg:	10,503	1,583	86.9%	13.1%	12,054	-	31	99.7%	0.0%	0.3%	12,057	29	99.8%	0.2%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	180	3	98.4%	1.6%	139	44	76.0%	24.0%	167	-	16	91.3%	0.0%	8.7%	183
1997	238	3	98.8%	1.2%	185	56	76.8%	23.2%	228	-	13	94.6%	0.0%	5.4%	241
1998	309	4	98.7%	1.3%	245	68	78.3%	21.7%	289	1	23	92.3%	0.3%	7.3%	313
1999	505	7	98.6%	1.4%	405	107	79.1%	20.9%	451	1	60	88.1%	0.2%	11.7%	512
2000	501	7	98.6%	1.4%	429	79	84.4%	15.6%	462	3	43	90.9%	0.6%	8.5%	508
2001	491	3	99.4%	0.6%	416	78	84.2%	15.8%	410	4	80	83.0%	0.8%	16.2%	494
2002	624	11	98.3%	1.7%	562	73	88.5%	11.5%	561	2	72	88.3%	0.3%	11.3%	635
2003	752	9	98.8%	1.2%	657	104	86.3%	13.7%	677	4	80	89.0%	0.5%	10.5%	761
2004	1,033	7	99.3%	0.7%	954	86	91.7%	8.3%	959	3	78	92.2%	0.3%	7.5%	1,040
2005	758	5	99.3%	0.7%	703	60	92.1%	7.9%	704	-	59	92.3%	0.0%	7.7%	763
2006	956	6	99.4%	0.6%	897	65	93.2%	6.8%	896	3	63	93.1%	0.3%	6.5%	962
2007	865	5	99.4%	0.6%	813	57	93.4%	6.6%	820	2	48	94.3%	0.2%	5.5%	870
2008	1,149	4	99.7%	0.3%	1,107	46	96.0%	4.0%	1,088	4	61	94.4%	0.3%	5.3%	1,153
2009	503	1	99.8%	0.2%	486	18	96.4%	3.6%	472	-	32	93.7%	0.0%	6.3%	504
2010	934	1	99.9%	0.1%	926	9	99.0%	1.0%	902	2	31	96.5%	0.2%	3.3%	935
2011	785	-	100.0%	0.0%	775	10	98.7%	1.3%	771	1	13	98.2%	0.1%	1.7%	785
2012	529	4	99.2%	0.8%	521	12	97.7%	2.3%	508	5	20	95.3%	0.9%	3.8%	533
2013	603	2	99.7%	0.3%	595	10	98.3%	1.7%	585	5	15	96.7%	0.8%	2.5%	605
2014	259	-	100.0%	0.0%	258	1	99.6%	0.4%	258	-	1	99.6%	0.0%	0.4%	259
2015	30	-	100.0%	0.0%	30	-	100.0%	0.0%	30	-	-	100.0%	0.0%	0.0%	30
Total / Avg:	12,004	82	99.3%	0.7%	11,103	983	91.9%	8.1%	11,238	40	808	93.0%	0.3%	6.7%	12,086

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Heavy Duty Vehicle' Initial Test CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	6	1	85.7%	14.3%	7	-	-	1	0.0%	0.0%	7	-	100.0%	0.0%
1997	10	2	83.3%	16.7%	12	-	-	1	0.0%	0.0%	12	-	100.0%	0.0%
1998	16	3	84.2%	15.8%	19	-	-	1	0.0%	0.0%	19	-	100.0%	0.0%
1999	23	6	79.3%	20.7%	29	-	-	1	0.0%	0.0%	29	-	100.0%	0.0%
2000	53	7	88.3%	11.7%	60	-	-	1	0.0%	0.0%	60	-	100.0%	0.0%
2001	36	14	72.0%	28.0%	49	-	1	0.98	0.0%	2.0%	49	1	98.0%	2.0%
2002	38	16	70.4%	29.6%	54	-	-	1	0.0%	0.0%	54	-	100.0%	0.0%
2003	42	15	73.7%	26.3%	57	-	-	1	0.0%	0.0%	57	-	100.0%	0.0%
2004	52	16	76.5%	23.5%	68	-	-	1	0.0%	0.0%	68	-	100.0%	0.0%
2005	51	6	89.5%	10.5%	56	-	-	1	0.0%	0.0%	57	-	100.0%	0.0%
2006	73	10	88.0%	12.0%	83	-	-	1	0.0%	0.0%	83	-	100.0%	0.0%
2007	54	8	87.1%	12.9%	62	-	-	1	0.0%	0.0%	62	-	100.0%	0.0%
2008	41	5	89.1%	10.9%	46	-	-	1	0.0%	0.0%	46	-	100.0%	0.0%
2009	47	10	82.5%	17.5%	57	-	-	1	0.0%	0.0%	57	-	100.0%	0.0%
2010	98	6	94.2%	5.8%	104	-	-	1	0.0%	0.0%	104	-	100.0%	0.0%
2011	76	8	90.5%	9.5%	84	-	-	1	0.0%	0.0%	84	-	100.0%	0.0%
2012	50	3	94.3%	5.7%	53	-	-	1	0.0%	0.0%	53	-	100.0%	0.0%
2013	38	1	97.4%	2.6%	39	-	-	1	0.0%	0.0%	39	-	100.0%	0.0%
2014	21	-	100.0%	0.0%	21	-	-	1	0.0%	0.0%	21	-	100.0%	0.0%
2015	4	-	100.0%	0.0%	4	-	-	1	0.0%	0.0%	4	-	100.0%	0.0%
<b>Total / Avg:</b>	<b>829</b>	<b>137</b>	<b>85.8%</b>	<b>14.2%</b>	<b>964</b>	<b>-</b>	<b>1</b>	<b>99.9%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>965</b>	<b>1</b>	<b>99.9%</b>	<b>0.1%</b>

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	7	-	100.0%	0.0%	6	1	85.7%	14.3%	7	-	-	100.0%	0.0%	0.0%	7
1997	12	-	100.0%	0.0%	10	2	83.3%	16.7%	11	-	1	91.7%	0.0%	8.3%	12
1998	19	-	100.0%	0.0%	18	1	94.7%	5.3%	17	-	2	89.5%	0.0%	10.5%	19
1999	27	2	93.1%	6.9%	24	5	82.8%	17.2%	27	-	2	93.1%	0.0%	6.9%	29
2000	60	-	100.0%	0.0%	56	4	93.3%	6.7%	56	-	4	93.3%	0.0%	6.7%	60
2001	49	1	98.0%	2.0%	49	1	98.0%	2.0%	36	-	14	72.0%	0.0%	28.0%	50
2002	54	-	100.0%	0.0%	47	7	87.0%	13.0%	41	-	13	75.9%	0.0%	24.1%	54
2003	57	-	100.0%	0.0%	54	3	94.7%	5.3%	44	-	13	77.2%	0.0%	22.8%	57
2004	67	1	98.5%	1.5%	65	3	95.6%	4.4%	53	-	15	77.9%	0.0%	22.1%	68
2005	57	-	100.0%	0.0%	53	4	93.0%	7.0%	53	1	3	93.0%	1.8%	5.3%	57
2006	82	1	98.8%	1.2%	76	7	91.6%	8.4%	80	-	3	96.4%	0.0%	3.6%	83
2007	62	-	100.0%	0.0%	56	6	90.3%	9.7%	58	1	3	93.5%	1.6%	4.8%	62
2008	46	-	100.0%	0.0%	45	1	97.8%	2.2%	42	-	4	91.3%	0.0%	8.7%	46
2009	56	1	98.2%	1.8%	53	4	93.0%	7.0%	51	-	6	89.5%	0.0%	10.5%	57
2010	102	2	98.1%	1.9%	99	5	95.2%	4.8%	100	-	4	96.2%	0.0%	3.8%	104
2011	84	-	100.0%	0.0%	82	2	97.6%	2.4%	77	1	6	91.7%	1.2%	7.1%	84
2012	53	-	100.0%	0.0%	53	-	100.0%	0.0%	50	-	3	94.3%	0.0%	5.7%	53
2013	39	-	100.0%	0.0%	39	-	100.0%	0.0%	38	-	1	97.4%	0.0%	2.6%	39
2014	21	-	100.0%	0.0%	21	-	100.0%	0.0%	21	-	-	100.0%	0.0%	0.0%	21
2015	4	-	100.0%	0.0%	4	-	100.0%	0.0%	4	-	-	100.0%	0.0%	0.0%	4
<b>Total / Avg:</b>	<b>958</b>	<b>8</b>	<b>99.2%</b>	<b>0.8%</b>	<b>910</b>	<b>56</b>	<b>94.2%</b>	<b>5.8%</b>	<b>866</b>	<b>3</b>	<b>97</b>	<b>89.6%</b>	<b>0.3%</b>	<b>10.0%</b>	<b>966</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and  
Test Type  
Catalyst Test Results for 'Light Duty Vehicle' 'Initial Test'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	58	-	100.0%	0.0%	58
1985	63	-	100.0%	0.0%	63
1986	106	-	100.0%	0.0%	106
1987	144	-	100.0%	0.0%	144
1988	187	-	100.0%	0.0%	187
1989	218	-	100.0%	0.0%	218
1990	332	-	100.0%	0.0%	332
1991	402	-	100.0%	0.0%	402
1992	506	-	100.0%	0.0%	506
1993	638	-	100.0%	0.0%	638
1994	936	-	100.0%	0.0%	936
1995	1,241	-	100.0%	0.0%	1,241
1996	1,435	-	100.0%	0.0%	1,435
1997	1,854	1	99.9%	0.1%	1,855
1998	2,502	-	100.0%	0.0%	2,502
1999	3,134	-	100.0%	0.0%	3,134
2000	4,411	-	100.0%	0.0%	4,411
2001	4,359	1	100.0%	0.0%	4,360
2002	4,938	-	100.0%	0.0%	4,938
2003	6,130	-	100.0%	0.0%	6,130
2004	6,422	-	100.0%	0.0%	6,422
2005	6,056	-	100.0%	0.0%	6,056
2006	6,814	-	100.0%	0.0%	6,814
2007	6,641	1	100.0%	0.0%	6,642
2008	7,097	-	100.0%	0.0%	7,097
2009	5,425	-	100.0%	0.0%	5,425
2010	6,495	-	100.0%	0.0%	6,495
2011	5,396	-	100.0%	0.0%	5,396
2012	4,081	-	100.0%	0.0%	4,081
2013	3,422	-	100.0%	0.0%	3,422
2014	1,649	-	100.0%	0.0%	1,649
2015	134	-	100.0%	0.0%	134
<b>Total / Avg:</b>	<b>93,226</b>	<b>3</b>	<b>100.0%</b>	<b>0.0%</b>	<b>93,229</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Light Duty Truck1' 'Initial Test'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	1	-	100.0%	0.0%	1
1983	-	-	0.0%	0.0%	-
1984	11	-	100.0%	0.0%	11
1985	21	-	100.0%	0.0%	21
1986	32	-	100.0%	0.0%	32
1987	27	-	100.0%	0.0%	27
1988	46	-	100.0%	0.0%	46
1989	53	-	100.0%	0.0%	53
1990	52	-	100.0%	0.0%	52
1991	78	-	100.0%	0.0%	78
1992	78	-	100.0%	0.0%	78
1993	130	-	100.0%	0.0%	130
1994	212	-	100.0%	0.0%	212
1995	319	-	100.0%	0.0%	319
1996	460	-	100.0%	0.0%	460
1997	636	-	100.0%	0.0%	636
1998	855	-	100.0%	0.0%	855
1999	973	-	100.0%	0.0%	973
2000	1,328	-	100.0%	0.0%	1,328
2001	1,402	-	100.0%	0.0%	1,402
2002	1,928	-	100.0%	0.0%	1,928
2003	1,859	-	100.0%	0.0%	1,859
2004	2,524	1	100.0%	0.0%	2,525
2005	2,349	-	100.0%	0.0%	2,349
2006	2,624	-	100.0%	0.0%	2,624
2007	2,087	-	100.0%	0.0%	2,087
2008	2,077	-	100.0%	0.0%	2,077
2009	1,226	-	100.0%	0.0%	1,226
2010	2,358	-	100.0%	0.0%	2,358
2011	1,751	-	100.0%	0.0%	1,751
2012	1,047	-	100.0%	0.0%	1,047
2013	1,024	1	99.9%	0.1%	1,025
2014	646	-	100.0%	0.0%	646
2015	86	-	100.0%	0.0%	86
<b>Total / Avg:</b>	<b>30,300</b>	<b>2</b>	<b>100.0%</b>	<b>0.0%</b>	<b>30,302</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Light Duty Truck2' 'Initial Test'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	1	-	100.0%	0.0%	1
1983	-	-	0.0%	0.0%	-
1984	5	-	100.0%	0.0%	5
1985	4	-	100.0%	0.0%	4
1986	9	-	100.0%	0.0%	9
1987	12	-	100.0%	0.0%	12
1988	22	-	100.0%	0.0%	22
1989	25	-	100.0%	0.0%	25
1990	32	-	100.0%	0.0%	32
1991	30	-	100.0%	0.0%	30
1992	40	-	100.0%	0.0%	40
1993	64	-	100.0%	0.0%	64
1994	137	-	100.0%	0.0%	137
1995	174	-	100.0%	0.0%	174
1996	187	-	100.0%	0.0%	187
1997	244	1	99.6%	0.4%	245
1998	320	-	100.0%	0.0%	320
1999	515	-	100.0%	0.0%	515
2000	516	-	100.0%	0.0%	516
2001	500	-	100.0%	0.0%	500
2002	646	-	100.0%	0.0%	646
2003	774	-	100.0%	0.0%	774
2004	1,047	-	100.0%	0.0%	1,047
2005	768	-	100.0%	0.0%	768
2006	979	-	100.0%	0.0%	979
2007	884	-	100.0%	0.0%	884
2008	1,163	-	100.0%	0.0%	1,163
2009	513	-	100.0%	0.0%	513
2010	945	-	100.0%	0.0%	945
2011	788	-	100.0%	0.0%	788
2012	544	-	100.0%	0.0%	544
2013	627	-	100.0%	0.0%	627
2014	265	-	100.0%	0.0%	265
2015	31	-	100.0%	0.0%	31
<b>Total / Avg:</b>	<b>12,811</b>	<b>1</b>	<b>100.0%</b>	<b>0.0%</b>	<b>12,812</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Heavy Duty Vehicle' 'Initial Test'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	1	-	100.0%	0.0%	1
1977	1	-	100.0%	0.0%	1
1978	2	-	100.0%	0.0%	2
1979	1	-	100.0%	0.0%	1
1980	3	-	100.0%	0.0%	3
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	7	-	100.0%	0.0%	7
1985	6	-	100.0%	0.0%	6
1986	7	-	100.0%	0.0%	7
1987	8	-	100.0%	0.0%	8
1988	12	-	100.0%	0.0%	12
1989	15	-	100.0%	0.0%	15
1990	11	-	100.0%	0.0%	11
1991	6	-	100.0%	0.0%	6
1992	10	-	100.0%	0.0%	10
1993	24	-	100.0%	0.0%	24
1994	35	-	100.0%	0.0%	35
1995	34	-	100.0%	0.0%	34
1996	36	-	100.0%	0.0%	36
1997	56	-	100.0%	0.0%	56
1998	50	-	100.0%	0.0%	50
1999	79	-	100.0%	0.0%	79
2000	140	-	100.0%	0.0%	140
2001	148	-	100.0%	0.0%	148
2002	151	-	100.0%	0.0%	151
2003	163	-	100.0%	0.0%	163
2004	189	-	100.0%	0.0%	189
2005	170	-	100.0%	0.0%	170
2006	219	-	100.0%	0.0%	219
2007	178	-	100.0%	0.0%	178
2008	184	-	100.0%	0.0%	184
2009	187	-	100.0%	0.0%	187
2010	312	-	100.0%	0.0%	312
2011	456	-	100.0%	0.0%	456
2012	540	-	100.0%	0.0%	540
2013	296	-	100.0%	0.0%	296
2014	136	-	100.0%	0.0%	136
2015	17	-	100.0%	0.0%	17
<b>Total / Avg:</b>	<b>3,890</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>3,890</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Vehicle' 'Initial Test' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	56	-	-	2	96.6%	0.0%	0.0%	3.4%	58
1985	61	-	-	2	96.8%	0.0%	0.0%	3.2%	63
1986	99	-	-	7	93.4%	0.0%	0.0%	6.6%	106
1987	137	-	1	6	95.1%	0.0%	0.7%	4.2%	144
1988	181	-	-	6	96.8%	0.0%	0.0%	3.2%	187
1989	208	1	2	7	95.4%	0.5%	0.9%	3.2%	218
1990	321	1	2	8	96.7%	0.3%	0.6%	2.4%	332
1991	383	3	1	15	95.3%	0.7%	0.2%	3.7%	402
1992	486	4	1	15	96.0%	0.8%	0.2%	3.0%	506
1993	621	2	1	14	97.3%	0.3%	0.2%	2.2%	638
1994	908	9	2	17	97.0%	1.0%	0.2%	1.8%	936
1995	1,204	5	2	30	97.0%	0.4%	0.2%	2.4%	1,241
1996	1,377	5	2	51	96.0%	0.3%	0.1%	3.6%	1,435
1997	1,787	10	6	52	96.3%	0.5%	0.3%	2.8%	1,855
1998	2,394	7	7	94	95.7%	0.3%	0.3%	3.8%	2,502
1999	3,003	12	12	107	95.8%	0.4%	0.4%	3.4%	3,134
2000	4,256	8	8	139	96.5%	0.2%	0.2%	3.2%	4,411
2001	4,205	10	11	133	96.5%	0.2%	0.3%	3.1%	4,359
2002	4,763	-	11	159	96.6%	0.0%	0.2%	3.2%	4,933
2003	13	1	-	-	92.9%	7.1%	0.0%	0.0%	14
2004	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>26,467</b>	<b>78</b>	<b>69</b>	<b>864</b>	<b>96.3%</b>	<b>0.3%</b>	<b>0.3%</b>	<b>3.1%</b>	<b>27,478</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Truck1' 'Initial Test' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	11	-	-	-	100.0%	0.0%	0.0%	0.0%	11
1985	17	-	-	4	81.0%	0.0%	0.0%	19.0%	21
1986	29	-	-	3	90.6%	0.0%	0.0%	9.4%	32
1987	25	-	-	2	92.6%	0.0%	0.0%	7.4%	27
1988	41	1	-	4	89.1%	2.2%	0.0%	8.7%	46
1989	47	-	1	5	88.7%	0.0%	1.9%	9.4%	53
1990	49	1	-	2	94.2%	1.9%	0.0%	3.8%	52
1991	74	-	-	4	94.9%	0.0%	0.0%	5.1%	78
1992	73	2	1	2	93.6%	2.6%	1.3%	2.6%	78
1993	124	-	-	6	95.4%	0.0%	0.0%	4.6%	130
1994	203	2	1	6	95.8%	0.9%	0.5%	2.8%	212
1995	295	5	2	17	92.5%	1.6%	0.6%	5.3%	319
1996	409	2	3	46	88.9%	0.4%	0.7%	10.0%	460
1997	595	5	-	36	93.6%	0.8%	0.0%	5.7%	636
1998	811	1	2	41	94.9%	0.1%	0.2%	4.8%	855
1999	915	6	1	51	94.0%	0.6%	0.1%	5.2%	973
2000	1,264	2	5	57	95.2%	0.2%	0.4%	4.3%	1,328
2001	1,331	7	1	63	94.9%	0.5%	0.1%	4.5%	1,402
2002	1,855	4	6	62	96.3%	0.2%	0.3%	3.2%	1,927
2003	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
2004	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
2005	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>8,179</b>	<b>38</b>	<b>23</b>	<b>411</b>	<b>94.5%</b>	<b>0.4%</b>	<b>0.3%</b>	<b>4.8%</b>	<b>8,651</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Light Duty Truck2' 'Initial Test'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	4	-	-	1	80.0%	0.0%	0.0%	20.0%	5
1985	3	-	-	1	75.0%	0.0%	0.0%	25.0%	4
1986	8	-	-	1	88.9%	0.0%	0.0%	11.1%	9
1987	11	-	-	1	91.7%	0.0%	0.0%	8.3%	12
1988	19	-	-	3	86.4%	0.0%	0.0%	13.6%	22
1989	25	-	-	-	100.0%	0.0%	0.0%	0.0%	25
1990	31	-	-	1	96.9%	0.0%	0.0%	3.1%	32
1991	28	-	-	2	93.3%	0.0%	0.0%	6.7%	30
1992	35	-	-	5	87.5%	0.0%	0.0%	12.5%	40
1993	57	1	1	5	89.1%	1.6%	1.6%	7.8%	64
1994	123	2	1	11	89.8%	1.5%	0.7%	8.0%	137
1995	162	2	-	10	93.1%	1.1%	0.0%	5.7%	174
1996	177	2	2	6	94.7%	1.1%	1.1%	3.2%	187
1997	227	3	3	12	92.7%	1.2%	1.2%	4.9%	245
1998	300	-	-	20	93.8%	0.0%	0.0%	6.3%	320
1999	475	4	1	35	92.2%	0.8%	0.2%	6.8%	515
2000	480	2	-	34	93.0%	0.4%	0.0%	6.6%	516
2001	480	3	4	13	96.0%	0.6%	0.8%	2.6%	500
2002	620	1	2	23	96.0%	0.2%	0.3%	3.6%	646
2003	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>3,269</b>	<b>20</b>	<b>14</b>	<b>184</b>	<b>93.7%</b>	<b>0.6%</b>	<b>0.4%</b>	<b>5.3%</b>	<b>3,487</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Heavy Duty Vehicle' 'Initial Test'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1977	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1978	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1979	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1980	1	-	-	2	33.3%	0.0%	0.0%	66.7%	3
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	7	-	-	-	100.0%	0.0%	0.0%	0.0%	7
1985	5	-	-	1	83.3%	0.0%	0.0%	16.7%	6
1986	5	-	1	1	71.4%	0.0%	14.3%	14.3%	7
1987	6	1	-	1	75.0%	12.5%	0.0%	12.5%	8
1988	10	-	-	2	83.3%	0.0%	0.0%	16.7%	12
1989	13	-	-	2	86.7%	0.0%	0.0%	13.3%	15
1990	11	-	-	-	100.0%	0.0%	0.0%	0.0%	11
1991	6	-	-	-	100.0%	0.0%	0.0%	0.0%	6
1992	5	-	-	5	50.0%	0.0%	0.0%	50.0%	10
1993	21	1	-	2	87.5%	4.2%	0.0%	8.3%	24
1994	28	1	-	6	80.0%	2.9%	0.0%	17.1%	35
1995	31	1	-	2	91.2%	2.9%	0.0%	5.9%	34
1996	34	-	-	2	94.4%	0.0%	0.0%	5.6%	36
1997	51	-	2	3	91.1%	0.0%	3.6%	5.4%	56
1998	47	-	-	3	94.0%	0.0%	0.0%	6.0%	50
1999	77	1	-	1	97.5%	1.3%	0.0%	1.3%	79
2000	131	1	2	6	93.6%	0.7%	1.4%	4.3%	140
2001	134	-	1	13	90.5%	0.0%	0.7%	8.8%	148
2002	141	1	-	9	93.4%	0.7%	0.0%	6.0%	151
2003	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>770</b>	<b>7</b>	<b>6</b>	<b>61</b>	<b>91.2%</b>	<b>0.8%</b>	<b>0.7%</b>	<b>7.2%</b>	<b>844</b>

## 2.2 Vehicles failing and passing the first retest per test type:

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	3	1	75.0%	25.0%	4	-	100.0%	0.0%	3	1	75.0%	25.0%	4
1969	1	1	50.0%	50.0%	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2
1970	6	2	75.0%	25.0%	8	-	100.0%	0.0%	6	2	75.0%	25.0%	8
1971	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1972	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1973	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1974	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1975	5	1	83.3%	16.7%	6	-	100.0%	0.0%	5	1	83.3%	16.7%	6
1976	3	1	75.0%	25.0%	3	1	75.0%	25.0%	3	1	75.0%	25.0%	4
1977	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1978	4	3	57.1%	42.9%	5	2	71.4%	28.6%	6	1	85.7%	14.3%	7
1979	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1980	1	3	25.0%	75.0%	2	2	50.0%	50.0%	2	2	50.0%	50.0%	4
1981	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1982	1	2	33.3%	66.7%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3
1983	4	4	50.0%	50.0%	5	3	62.5%	37.5%	6	2	75.0%	25.0%	8
1984	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1985	1	2	33.3%	66.7%	2	1	66.7%	33.3%	1	2	33.3%	66.7%	3
1986	-	3	0.0%	100.0%	1	2	33.3%	66.7%	-	3	0.0%	100.0%	3
1987	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1988	1	1	50.0%	50.0%	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2
1989	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1990	5	9	35.7%	64.3%	12	2	85.7%	14.3%	5	9	35.7%	64.3%	14
1991	10	12	45.5%	54.5%	16	6	72.7%	27.3%	11	11	50.0%	50.0%	22
1992	13	12	52.0%	48.0%	16	9	64.0%	36.0%	15	10	60.0%	40.0%	25
1993	14	9	60.9%	39.1%	19	4	82.6%	17.4%	14	9	60.9%	39.1%	23
1994	21	14	60.0%	40.0%	35	-	100.0%	0.0%	21	14	60.0%	40.0%	35
1995	26	13	66.7%	33.3%	35	4	89.7%	10.3%	26	13	66.7%	33.3%	39
<b>Total / Avg:</b>	<b>127</b>	<b>99</b>	<b>56.2%</b>	<b>43.8%</b>	<b>186</b>	<b>40</b>	<b>82.3%</b>	<b>17.7%</b>	<b>137</b>	<b>89</b>	<b>60.6%</b>	<b>39.4%</b>	<b>226</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck1' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1981	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	1	4	20.0%	80.0%	2	3	40.0%	60.0%	1	4	20.0%	80.0%	5
1984	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1985	1	2	33.3%	66.7%	1	2	33.3%	66.7%	1	2	33.3%	66.7%	3
1986	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3
1987	1	3	25.0%	75.0%	1	3	25.0%	75.0%	3	1	75.0%	25.0%	4
1988	1	5	16.7%	83.3%	2	4	33.3%	66.7%	3	3	50.0%	50.0%	6
1989	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1990	3	4	42.9%	57.1%	6	1	85.7%	14.3%	3	4	42.9%	57.1%	7
1991	1	4	20.0%	80.0%	3	2	60.0%	40.0%	2	3	40.0%	60.0%	5
1992	4	1	80.0%	20.0%	5	-	100.0%	0.0%	4	1	80.0%	20.0%	5
1993	2	3	40.0%	60.0%	3	2	60.0%	40.0%	2	3	40.0%	60.0%	5
1994	8	3	72.7%	27.3%	9	2	81.8%	18.2%	8	3	72.7%	27.3%	11
1995	17	10	63.0%	37.0%	25	2	92.6%	7.4%	18	9	66.7%	33.3%	27
<b>Total / Avg:</b>	<b>44</b>	<b>42</b>	<b>51.2%</b>	<b>48.8%</b>	<b>63</b>	<b>23</b>	<b>73.3%</b>	<b>26.7%</b>	<b>50</b>	<b>36</b>	<b>58.1%</b>	<b>41.9%</b>	<b>86</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck2' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3
1984	-	2	0.0%	100.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1986	3	2	60.0%	40.0%	5	-	100.0%	0.0%	3	2	60.0%	40.0%	5
1987	-	2	0.0%	100.0%	-	2	0.0%	100.0%	-	2	0.0%	100.0%	2
1988	1	2	33.3%	66.7%	3	-	100.0%	0.0%	1	2	33.3%	66.7%	3
1989	2	2	50.0%	50.0%	3	1	75.0%	25.0%	2	2	50.0%	50.0%	4
1990	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1991	-	3	0.0%	100.0%	2	1	66.7%	33.3%	-	3	0.0%	100.0%	3
1992	3	2	60.0%	40.0%	5	-	100.0%	0.0%	3	2	60.0%	40.0%	5
1993	6	3	66.7%	33.3%	8	1	88.9%	11.1%	6	3	66.7%	33.3%	9
1994	3	4	42.9%	57.1%	7	-	100.0%	0.0%	3	4	42.9%	57.1%	7
1995	9	7	56.3%	43.8%	14	2	87.5%	12.5%	10	6	62.5%	37.5%	16
<b>Total / Avg:</b>	<b>31</b>	<b>30</b>	<b>50.8%</b>	<b>49.2%</b>	<b>52</b>	<b>9</b>	<b>85.2%</b>	<b>14.8%</b>	<b>33</b>	<b>28</b>	<b>54.1%</b>	<b>45.9%</b>	<b>61</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Heavy Duty Vehicle' First Retest CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1940	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1941	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1942	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1943	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1944	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1945	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1946	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1947	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1948	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1949	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1950	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1951	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1952	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1953	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1954	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1955	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1956	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1957	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1958	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1959	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1960	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1961	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1962	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1963	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1964	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1965	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1966	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1967	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1977	1	1	50.0%	50.0%	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2
1978	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	1	0.0%	100.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1981	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1984	2	2	50.0%	50.0%	4	-	100.0%	0.0%	2	2	50.0%	50.0%	4
1985	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1986	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1987	1	3	25.0%	75.0%	2	2	50.0%	50.0%	3	1	75.0%	25.0%	4
1988	4	2	66.7%	33.3%	6	-	100.0%	0.0%	4	2	66.7%	33.3%	6
1989	3	1	75.0%	25.0%	4	-	100.0%	0.0%	3	1	75.0%	25.0%	4
1990	5	1	83.3%	16.7%	6	-	100.0%	0.0%	5	1	83.3%	16.7%	6
1991	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3
1992	5	6	45.5%	54.5%	7	4	63.6%	36.4%	5	6	45.5%	54.5%	11
1993	1	4	20.0%	80.0%	2	3	40.0%	60.0%	1	4	20.0%	80.0%	5
1994	3	3	50.0%	50.0%	5	1	83.3%	16.7%	3	3	50.0%	50.0%	6
1995	8	-	100.0%	0.0%	8	-	100.0%	0.0%	8	-	100.0%	0.0%	8
<b>Total / Avg:</b>	<b>42</b>	<b>31</b>	<b>57.5%</b>	<b>42.5%</b>	<b>59</b>	<b>14</b>	<b>80.8%</b>	<b>19.2%</b>	<b>44</b>	<b>29</b>	<b>60.3%</b>	<b>39.7%</b>	<b>73</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	5	11	31.3%	68.8%	8	8	50.0%	50.0%	7	9	43.8%	56.3%	12	4	75.0%	25.0%	16
1985	10	4	71.4%	28.6%	10	4	71.4%	28.6%	10	4	71.4%	28.6%	13	1	92.9%	7.1%	14
1986	10	11	47.6%	52.4%	16	5	76.2%	23.8%	11	10	52.4%	47.6%	17	4	81.0%	19.0%	21
1987	11	16	40.7%	59.3%	20	7	74.1%	25.9%	16	11	59.3%	40.7%	22	5	81.5%	18.5%	27
1988	10	21	32.3%	67.7%	20	11	64.5%	35.5%	14	17	45.2%	54.8%	23	8	74.2%	25.8%	31
1989	14	17	45.2%	54.8%	25	6	80.6%	19.4%	21	10	67.7%	32.3%	24	7	77.4%	22.6%	31
1990	30	20	60.0%	40.0%	39	11	78.0%	22.0%	34	16	68.0%	32.0%	45	5	90.0%	10.0%	50
1991	34	29	54.0%	46.0%	56	7	88.9%	11.1%	42	21	66.7%	33.3%	50	13	79.4%	20.6%	63
1992	35	32	52.2%	47.8%	55	12	82.1%	17.9%	44	23	65.7%	34.3%	48	19	71.6%	28.4%	67
1993	48	37	56.5%	43.5%	74	11	87.1%	12.9%	64	21	75.3%	24.7%	63	22	74.1%	25.9%	85
1994	51	38	57.3%	42.7%	82	7	92.1%	7.9%	59	30	66.3%	33.7%	71	18	79.8%	20.2%	89
1995	64	38	62.7%	37.3%	93	9	91.2%	8.8%	68	34	66.7%	33.3%	90	12	88.2%	11.8%	102
Total / Avg:	322	274	54.0%	46.0%	498	98	83.6%	16.4%	390	206	65.4%	34.6%	478	118	80.2%	19.8%	596

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck1' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3
1985	2	1	66.7%	33.3%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3	-	100.0%	0.0%	3
1986	1	2	33.3%	66.7%	1	2	33.3%	66.7%	2	1	66.7%	33.3%	3	-	100.0%	0.0%	3
1987	1	3	25.0%	75.0%	3	1	75.0%	25.0%	1	3	25.0%	75.0%	3	1	75.0%	25.0%	4
1988	2	2	50.0%	50.0%	3	1	75.0%	25.0%	2	2	50.0%	50.0%	3	1	75.0%	25.0%	4
1989	3	6	33.3%	66.7%	6	3	66.7%	33.3%	3	6	33.3%	66.7%	8	1	88.9%	11.1%	9
1990	1	4	20.0%	80.0%	2	3	40.0%	60.0%	3	2	60.0%	40.0%	4	1	80.0%	20.0%	5
1991	3	7	30.0%	70.0%	8	2	80.0%	20.0%	3	7	30.0%	70.0%	8	2	80.0%	20.0%	10
1992	9	12	42.9%	57.1%	11	10	52.4%	47.6%	9	12	42.9%	57.1%	20	1	95.2%	4.8%	21
1993	9	12	42.9%	57.1%	12	9	57.1%	42.9%	9	12	42.9%	57.1%	17	4	81.0%	19.0%	21
1994	14	10	58.3%	41.7%	17	7	70.8%	29.2%	17	7	70.8%	29.2%	21	3	87.5%	12.5%	24
1995	13	12	52.0%	48.0%	21	4	84.0%	16.0%	16	9	64.0%	36.0%	17	8	68.0%	32.0%	25
Total / Avg:	60	72	45.5%	54.5%	88	44	66.7%	33.3%	69	63	52.3%	47.7%	109	23	82.6%	17.4%	132

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck2' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1985	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	-	1	0.0%	100.0%	1
1986	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1987	2	2	50.0%	50.0%	2	2	50.0%	50.0%	2	2	50.0%	50.0%	3	1	75.0%	25.0%	4
1988	2	2	50.0%	50.0%	4	-	100.0%	0.0%	4	-	100.0%	0.0%	2	2	50.0%	50.0%	4
1989	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1990	4	2	66.7%	33.3%	5	1	83.3%	16.7%	4	2	66.7%	33.3%	5	1	83.3%	16.7%	6
1991	4	3	57.1%	42.9%	6	1	85.7%	14.3%	5	2	71.4%	28.6%	5	2	71.4%	28.6%	7
1992	3	14	17.6%	82.4%	6	11	35.3%	64.7%	4	13	23.5%	76.5%	15	2	88.2%	11.8%	17
1993	8	9	47.1%	52.9%	16	1	94.1%	5.9%	8	9	47.1%	52.9%	12	5	70.6%	29.4%	17
1994	16	20	44.4%	55.6%	29	7	80.6%	19.4%	17	19	47.2%	52.8%	27	9	75.0%	25.0%	36
1995	14	30	31.8%	68.2%	24	20	54.5%	45.5%	19	25	43.2%	56.8%	29	15	65.9%	34.1%	44
Total / Avg:	56	84	40.0%	60.0%	96	44	68.6%	31.4%	67	73	47.9%	52.1%	102	38	72.9%	27.1%	140

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1986	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1987	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1988	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1989	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1990	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1991	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1992	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1993	1	1	50.0%	50.0%	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2	-	100.0%	0.0%	2
1994	-	2	0.0%	100.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1995	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
<b>Total / Avg:</b>	<b>3</b>	<b>7</b>	<b>30.0%</b>	<b>70.0%</b>	<b>5</b>	<b>5</b>	<b>50.0%</b>	<b>50.0%</b>	<b>4</b>	<b>6</b>	<b>40.0%</b>	<b>60.0%</b>	<b>8</b>	<b>2</b>	<b>80.0%</b>	<b>20.0%</b>	<b>10</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	145	161	47.4%	52.6%	301	-	-	100.0%	0.0%	0.0%	303	3	99.0%	1.0%
1997	199	158	55.7%	44.3%	355	-	2	99.4%	0.0%	0.6%	355	2	99.4%	0.6%
1998	273	217	55.7%	44.3%	485	-	1	99.8%	0.0%	0.2%	485	5	99.0%	1.0%
1999	344	278	55.3%	44.7%	618	-	2	99.7%	0.0%	0.3%	618	4	99.4%	0.6%
2000	443	330	57.3%	42.7%	770	-	-	100.0%	0.0%	0.0%	770	3	99.6%	0.4%
2001	474	508	48.3%	51.7%	977	-	1	99.9%	0.0%	0.1%	976	6	99.4%	0.6%
2002	481	391	55.2%	44.8%	868	-	1	99.9%	0.0%	0.1%	868	4	99.5%	0.5%
2003	596	361	62.3%	37.7%	949	-	3	99.7%	0.0%	0.3%	948	9	99.1%	0.9%
2004	476	303	61.1%	38.9%	777	-	1	99.9%	0.0%	0.1%	777	2	99.7%	0.3%
2005	477	270	63.9%	36.1%	744	-	1	99.9%	0.0%	0.1%	744	3	99.6%	0.4%
2006	398	189	67.8%	32.2%	584	-	1	99.8%	0.0%	0.2%	584	3	99.5%	0.5%
2007	312	144	68.4%	31.6%	452	-	1	99.8%	0.0%	0.2%	452	4	99.1%	0.9%
2008	295	132	69.1%	30.9%	424	-	2	99.5%	0.0%	0.5%	424	3	99.3%	0.7%
2009	196	84	70.0%	30.0%	279	-	1	99.6%	0.0%	0.4%	279	1	99.6%	0.4%
2010	184	58	76.0%	24.0%	242	-	-	100.0%	0.0%	0.0%	242	-	100.0%	0.0%
2011	139	44	76.0%	24.0%	182	-	1	99.5%	0.0%	0.5%	182	1	99.5%	0.5%
2012	78	27	74.3%	25.7%	104	-	1	99.0%	0.0%	1.0%	104	1	99.0%	1.0%
2013	59	17	77.6%	22.4%	74	-	2	97.4%	0.0%	2.6%	74	2	97.4%	2.6%
2014	19	4	82.6%	17.4%	23	-	-	100.0%	0.0%	0.0%	23	-	100.0%	0.0%
2015	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
Total / Avg:	5,589	3,676	60.3%	39.7%	9,209	-	21	99.8%	0.0%	0.2%	9,209	56	99.4%	0.6%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	300	6	98.0%	2.0%	230	76	75.2%	24.8%	200	1	105	65.4%	0.3%	34.3%	306
1997	353	4	98.9%	1.1%	277	80	77.6%	22.4%	262	-	95	73.4%	0.0%	26.6%	357
1998	482	8	98.4%	1.6%	374	116	76.3%	23.7%	368	1	121	75.1%	0.2%	24.7%	490
1999	609	13	97.9%	2.1%	472	150	75.9%	24.1%	446	5	171	71.7%	0.8%	27.5%	622
2000	758	15	98.1%	1.9%	612	161	79.2%	20.8%	562	5	206	72.7%	0.6%	26.6%	773
2001	955	27	97.3%	2.7%	779	203	79.3%	20.7%	601	4	377	61.2%	0.4%	38.4%	982
2002	856	16	98.2%	1.8%	733	139	84.1%	15.9%	572	5	295	65.6%	0.6%	33.8%	872
2003	943	14	98.5%	1.5%	827	130	86.4%	13.6%	680	5	272	71.1%	0.5%	28.4%	957
2004	771	8	99.0%	1.0%	678	101	87.0%	13.0%	539	4	236	69.2%	0.5%	30.3%	779
2005	739	8	98.9%	1.1%	664	83	88.9%	11.1%	533	2	212	71.4%	0.3%	28.4%	747
2006	583	4	99.3%	0.7%	528	59	89.9%	10.1%	436	1	150	74.3%	0.2%	25.6%	587
2007	448	8	98.2%	1.8%	413	43	90.6%	9.4%	338	4	114	74.1%	0.9%	25.0%	456
2008	423	4	99.1%	0.9%	392	35	91.8%	8.2%	317	4	106	74.2%	0.9%	24.8%	427
2009	279	1	99.6%	0.4%	268	12	95.7%	4.3%	202	3	75	72.1%	1.1%	26.8%	280
2010	240	2	99.2%	0.8%	230	12	95.0%	5.0%	191	3	48	78.9%	1.2%	19.8%	242
2011	181	2	98.9%	1.1%	179	4	97.8%	2.2%	141	-	42	77.0%	0.0%	23.0%	183
2012	104	1	99.0%	1.0%	102	3	97.1%	2.9%	78	1	26	74.3%	1.0%	24.8%	105
2013	74	2	97.4%	2.6%	74	2	97.4%	2.6%	59	-	17	77.6%	0.0%	22.4%	76
2014	23	-	100.0%	0.0%	23	-	100.0%	0.0%	19	-	4	82.6%	0.0%	17.4%	23
2015	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
<b>Total / Avg:</b>	<b>9,122</b>	<b>143</b>	<b>98.5%</b>	<b>1.5%</b>	<b>7,856</b>	<b>1,409</b>	<b>84.8%</b>	<b>15.2%</b>	<b>6,545</b>	<b>48</b>	<b>2,672</b>	<b>70.6%</b>	<b>0.5%</b>	<b>28.8%</b>	<b>9,265</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
OBD Test Results for 'Light Duty Truck1' 'First Retest'  
CY 2014

Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	56	48	53.8%	46.2%	103	-	-	100.0%	0.0%	0.0%	103	1	99.0%	1.0%
1997	69	66	51.1%	48.9%	134	-	1	99.3%	0.0%	0.7%	134	1	99.3%	0.7%
1998	90	55	62.1%	37.9%	144	-	-	100.0%	0.0%	0.0%	144	1	99.3%	0.7%
1999	109	61	64.1%	35.9%	168	-	1	99.4%	0.0%	0.6%	168	2	98.8%	1.2%
2000	142	106	57.3%	42.7%	246	-	-	100.0%	0.0%	0.0%	245	3	98.8%	1.2%
2001	198	165	54.5%	45.5%	362	-	1	99.7%	0.0%	0.3%	362	1	99.7%	0.3%
2002	182	178	50.6%	49.4%	356	-	2	99.4%	0.0%	0.6%	357	3	99.2%	0.8%
2003	183	134	57.7%	42.3%	313	-	2	99.4%	0.0%	0.6%	313	4	98.7%	1.3%
2004	195	118	62.3%	37.7%	310	-	1	99.7%	0.0%	0.3%	310	3	99.0%	1.0%
2005	194	135	59.0%	41.0%	327	-	1	99.7%	0.0%	0.3%	327	2	99.4%	0.6%
2006	161	95	62.9%	37.1%	255	-	-	100.0%	0.0%	0.0%	255	1	99.6%	0.4%
2007	83	45	64.8%	35.2%	127	-	-	100.0%	0.0%	0.0%	127	1	99.2%	0.8%
2008	56	36	60.9%	39.1%	92	-	-	100.0%	0.0%	0.0%	92	-	100.0%	0.0%
2009	34	20	63.0%	37.0%	53	-	1	98.1%	0.0%	1.9%	53	1	98.1%	1.9%
2010	57	15	79.2%	20.8%	72	-	-	100.0%	0.0%	0.0%	72	-	100.0%	0.0%
2011	29	10	74.4%	25.6%	39	-	-	100.0%	0.0%	0.0%	39	-	100.0%	0.0%
2012	18	3	85.7%	14.3%	21	-	-	100.0%	0.0%	0.0%	21	-	100.0%	0.0%
2013	25	10	71.4%	28.6%	35	-	-	100.0%	0.0%	0.0%	35	-	100.0%	0.0%
2014	6	2	75.0%	25.0%	8	-	-	100.0%	0.0%	0.0%	8	-	100.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
Total / Avg:	1,887	1,302	59.2%	40.8%	3,165	-	10	99.7%	0.0%	0.3%	3,165	24	99.2%	0.8%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	103	1	99.0%	1.0%	80	24	76.9%	23.1%	71	-	33	68.3%	0.0%	31.7%	104
1997	133	2	98.5%	1.5%	91	44	67.4%	32.6%	102	-	33	75.6%	0.0%	24.4%	135
1998	143	2	98.6%	1.4%	109	36	75.2%	24.8%	117	1	27	80.7%	0.7%	18.6%	145
1999	166	4	97.6%	2.4%	140	30	82.4%	17.6%	128	-	42	75.3%	0.0%	24.7%	170
2000	242	6	97.6%	2.4%	199	49	80.2%	19.8%	178	2	68	71.8%	0.8%	27.4%	248
2001	354	9	97.5%	2.5%	292	71	80.4%	19.6%	236	-	127	65.0%	0.0%	35.0%	363
2002	354	6	98.3%	1.7%	295	65	81.9%	18.1%	221	1	138	61.4%	0.3%	38.3%	360
2003	311	6	98.1%	1.9%	273	44	86.1%	13.9%	207	2	108	65.3%	0.6%	34.1%	317
2004	309	4	98.7%	1.3%	263	50	84.0%	16.0%	222	1	90	70.9%	0.3%	28.8%	313
2005	322	7	97.9%	2.1%	284	45	86.3%	13.7%	219	2	108	66.6%	0.6%	32.8%	329
2006	253	3	98.8%	1.2%	226	30	88.3%	11.7%	179	1	76	69.9%	0.4%	29.7%	256
2007	125	3	97.7%	2.3%	113	15	88.3%	11.7%	90	-	38	70.3%	0.0%	29.7%	128
2008	89	3	96.7%	3.3%	75	17	81.5%	18.5%	66	1	25	71.7%	1.1%	27.2%	92
2009	53	1	98.1%	1.9%	49	5	90.7%	9.3%	36	-	18	66.7%	0.0%	33.3%	54
2010	72	-	100.0%	0.0%	69	3	95.8%	4.2%	58	1	13	80.6%	1.4%	18.1%	72
2011	39	-	100.0%	0.0%	39	-	100.0%	0.0%	29	-	10	74.4%	0.0%	25.6%	39
2012	21	-	100.0%	0.0%	21	-	100.0%	0.0%	18	-	3	85.7%	0.0%	14.3%	21
2013	35	-	100.0%	0.0%	34	1	97.1%	2.9%	26	-	9	74.3%	0.0%	25.7%	35
2014	8	-	100.0%	0.0%	8	-	100.0%	0.0%	6	-	2	75.0%	0.0%	25.0%	8
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
Total / Avg:	3,132	57	98.2%	1.8%	2,660	529	83.4%	16.6%	2,209	12	968	69.3%	0.4%	30.4%	3,189

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Truck2' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	27	23	0.54	0.46	50	-	-	100.0%	0.0%	0.0%	50	-	100.0%	0.0%
1997	23	38	0.377	0.623	61	-	-	100.0%	0.0%	0.0%	61	-	100.0%	0.0%
1998	46	34	0.575	0.425	80	-	-	100.0%	0.0%	0.0%	80	-	100.0%	0.0%
1999	50	69	0.42	0.58	119	-	-	100.0%	0.0%	0.0%	119	-	100.0%	0.0%
2000	62	39	0.614	0.386	100	-	1	99.0%	0.0%	1.0%	100	1	99.0%	1.0%
2001	65	61	0.516	0.484	126	-	-	100.0%	0.0%	0.0%	126	-	100.0%	0.0%
2002	58	54	0.518	0.482	110	-	2	98.2%	0.0%	1.8%	110	2	98.2%	1.8%
2003	64	73	0.467	0.533	137	-	-	100.0%	0.0%	0.0%	137	-	100.0%	0.0%
2004	79	49	0.617	0.383	128	-	-	100.0%	0.0%	0.0%	128	-	100.0%	0.0%
2005	54	40	0.574	0.426	94	-	-	100.0%	0.0%	0.0%	94	-	100.0%	0.0%
2006	70	37	0.654	0.346	107	-	-	100.0%	0.0%	0.0%	107	-	100.0%	0.0%
2007	59	32	0.648	0.352	88	-	-	100.0%	0.0%	0.0%	88	3	96.7%	3.3%
2008	54	31	0.635	0.365	84	-	1	98.8%	0.0%	1.2%	84	1	98.8%	1.2%
2009	28	13	0.683	0.317	40	-	-	100.0%	0.0%	0.0%	40	1	97.6%	2.4%
2010	24	11	0.686	0.314	35	-	-	100.0%	0.0%	0.0%	35	-	100.0%	0.0%
2011	14	6	0.7	0.3	20	-	-	100.0%	0.0%	0.0%	20	-	100.0%	0.0%
2012	24	6	0.8	0.2	30	-	-	100.0%	0.0%	0.0%	30	-	100.0%	0.0%
2013	20	3	0.87	0.13	23	-	-	100.0%	0.0%	0.0%	23	-	100.0%	0.0%
2014	-	2	0	1	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2015	-	-	0	0	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
<b>Total / Avg:</b>	<b>821</b>	<b>621</b>	<b>56.9%</b>	<b>43.1%</b>	<b>1,434</b>	<b>-</b>	<b>4</b>	<b>99.7%</b>	<b>0.0%</b>	<b>0.3%</b>	<b>1,434</b>	<b>8</b>	<b>99.4%</b>	<b>0.6%</b>

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	49	1	98.0%	2.0%	34	16	68.0%	32.0%	41	-	9	82.0%	0.0%	18.0%	50
1997	61	-	100.0%	0.0%	32	29	52.5%	47.5%	47	-	14	77.0%	0.0%	23.0%	61
1998	79	1	98.8%	1.3%	55	25	68.8%	31.3%	68	-	12	85.0%	0.0%	15.0%	80
1999	119	-	100.0%	0.0%	86	33	72.3%	27.7%	73	2	44	61.3%	1.7%	37.0%	119
2000	100	1	99.0%	1.0%	80	21	79.2%	20.8%	81	-	20	80.2%	0.0%	19.8%	101
2001	125	1	99.2%	0.8%	100	26	79.4%	20.6%	80	3	43	63.5%	2.4%	34.1%	126
2002	109	3	97.3%	2.7%	91	21	81.3%	18.8%	72	-	40	64.3%	0.0%	35.7%	112
2003	131	6	95.6%	4.4%	99	38	72.3%	27.7%	89	1	47	65.0%	0.7%	34.3%	137
2004	127	1	99.2%	0.8%	107	21	83.6%	16.4%	89	1	38	69.5%	0.8%	29.7%	128
2005	94	-	100.0%	0.0%	82	12	87.2%	12.8%	61	-	33	64.9%	0.0%	35.1%	94
2006	106	1	99.1%	0.9%	92	15	86.0%	14.0%	80	-	27	74.8%	0.0%	25.2%	107
2007	88	3	96.7%	3.3%	81	10	89.0%	11.0%	65	-	26	71.4%	0.0%	28.6%	91
2008	84	1	98.8%	1.2%	80	5	94.1%	5.9%	58	-	27	68.2%	0.0%	31.8%	85
2009	40	1	97.6%	2.4%	37	4	90.2%	9.8%	29	-	12	70.7%	0.0%	29.3%	41
2010	35	-	100.0%	0.0%	33	2	94.3%	5.7%	25	1	9	71.4%	2.9%	25.7%	35
2011	20	-	100.0%	0.0%	19	1	95.0%	5.0%	15	-	5	75.0%	0.0%	25.0%	20
2012	30	-	100.0%	0.0%	30	-	100.0%	0.0%	24	-	6	80.0%	0.0%	20.0%	30
2013	23	-	100.0%	0.0%	22	1	95.7%	4.3%	20	1	2	87.0%	4.3%	8.7%	23
2014	2	-	100.0%	0.0%	2	-	100.0%	0.0%	-	-	2	0.0%	0.0%	100.0%	2
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	-	-	0.0%	-
<b>Total / Avg:</b>	<b>1,422</b>	<b>20</b>	<b>98.6%</b>	<b>1.4%</b>	<b>1,162</b>	<b>280</b>	<b>80.6%</b>	<b>19.4%</b>	<b>1,017</b>	<b>9</b>	<b>416</b>	<b>70.5%</b>	<b>0.6%</b>	<b>28.8%</b>	<b>1,442</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	1	2	33.3%	66.7%	3	-	-	100.0%	0.0%	0.0%	3	-	100.0%	0.0%
1997	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
1998	1	1	50.0%	50.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
1999	4	1	80.0%	20.0%	5	-	-	100.0%	0.0%	0.0%	5	-	100.0%	0.0%
2000	8	1	88.9%	11.1%	9	-	-	100.0%	0.0%	0.0%	9	-	100.0%	0.0%
2001	4	10	28.6%	71.4%	13	-	-	100.0%	0.0%	0.0%	13	1	92.9%	7.1%
2002	2	5	28.6%	71.4%	7	-	-	100.0%	0.0%	0.0%	7	-	100.0%	0.0%
2003	5	3	62.5%	37.5%	8	-	-	100.0%	0.0%	0.0%	8	-	100.0%	0.0%
2004	4	7	36.4%	63.6%	11	-	-	100.0%	0.0%	0.0%	11	-	100.0%	0.0%
2005	2	2	50.0%	50.0%	4	-	-	100.0%	0.0%	0.0%	4	-	100.0%	0.0%
2006	7	1	87.5%	12.5%	8	-	-	100.0%	0.0%	0.0%	8	-	100.0%	0.0%
2007	3	2	60.0%	40.0%	5	-	-	100.0%	0.0%	0.0%	5	-	100.0%	0.0%
2008	6	1	85.7%	14.3%	7	-	-	100.0%	0.0%	0.0%	7	-	100.0%	0.0%
2009	2	2	50.0%	50.0%	4	-	-	100.0%	0.0%	0.0%	4	-	100.0%	0.0%
2010	4	6	40.0%	60.0%	10	-	-	100.0%	0.0%	0.0%	10	-	100.0%	0.0%
2011	1	1	50.0%	50.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2012	2	1	66.7%	33.3%	3	-	-	100.0%	0.0%	0.0%	3	-	100.0%	0.0%
2013	-	2	0.0%	100.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2014	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
Total / Avg:	57	48	54.3%	45.7%	104	-	-	100.0%	0.0%	0.0%	104	1	99.0%	1.0%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	3	-	100.0%	0.0%	1	2	33.3%	66.7%	3	-	-	100.0%	0.0%	0.0%	3
1997	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
1998	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2	-	-	100.0%	0.0%	0.0%	2
1999	5	-	100.0%	0.0%	4	1	80.0%	20.0%	5	-	-	100.0%	0.0%	0.0%	5
2000	9	-	100.0%	0.0%	8	1	88.9%	11.1%	9	-	-	100.0%	0.0%	0.0%	9
2001	13	1	92.9%	7.1%	12	2	85.7%	14.3%	5	-	9	35.7%	0.0%	64.3%	14
2002	7	-	100.0%	0.0%	7	-	100.0%	0.0%	2	-	5	28.6%	0.0%	71.4%	7
2003	8	-	100.0%	0.0%	8	-	100.0%	0.0%	5	-	3	62.5%	0.0%	37.5%	8
2004	11	-	100.0%	0.0%	10	1	90.9%	9.1%	4	-	7	36.4%	0.0%	63.6%	11
2005	4	-	100.0%	0.0%	4	-	100.0%	0.0%	2	-	2	50.0%	0.0%	50.0%	4
2006	8	-	100.0%	0.0%	7	1	87.5%	12.5%	8	-	-	100.0%	0.0%	0.0%	8
2007	5	-	100.0%	0.0%	4	1	80.0%	20.0%	3	-	2	60.0%	0.0%	40.0%	5
2008	7	-	100.0%	0.0%	7	-	100.0%	0.0%	6	-	1	85.7%	0.0%	14.3%	7
2009	4	-	100.0%	0.0%	3	1	75.0%	25.0%	2	-	2	50.0%	0.0%	50.0%	4
2010	9	1	90.0%	10.0%	6	4	60.0%	40.0%	5	-	5	50.0%	0.0%	50.0%	10
2011	2	-	100.0%	0.0%	2	-	100.0%	0.0%	1	-	1	50.0%	0.0%	50.0%	2
2012	3	-	100.0%	0.0%	3	-	100.0%	0.0%	2	-	1	66.7%	0.0%	33.3%	3
2013	2	-	100.0%	0.0%	2	-	100.0%	0.0%	-	-	2	0.0%	0.0%	100.0%	2
2014	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
Total / Avg:	103	2	98.1%	1.9%	90	15	85.7%	14.3%	65	-	40	61.9%	0.0%	38.1%	105

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and  
Test Type  
Catalyst Test Results for 'Light Duty Vehicle' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	1	-	100.0%	0.0%	1
1984	9	-	100.0%	0.0%	9
1985	7	-	100.0%	0.0%	7
1986	11	-	100.0%	0.0%	11
1987	11	-	100.0%	0.0%	11
1988	11	-	100.0%	0.0%	11
1989	13	-	100.0%	0.0%	13
1990	20	-	100.0%	0.0%	20
1991	21	-	100.0%	0.0%	21
1992	26	-	100.0%	0.0%	26
1993	25	-	100.0%	0.0%	25
1994	41	-	100.0%	0.0%	41
1995	36	-	100.0%	0.0%	36
1996	93	-	100.0%	0.0%	93
1997	125	-	100.0%	0.0%	125
1998	158	-	100.0%	0.0%	158
1999	186	-	100.0%	0.0%	186
2000	217	-	100.0%	0.0%	217
2001	266	-	100.0%	0.0%	266
2002	228	-	100.0%	0.0%	228
2003	200	-	100.0%	0.0%	200
2004	171	-	100.0%	0.0%	171
2005	147	-	100.0%	0.0%	147
2006	130	-	100.0%	0.0%	130
2007	97	-	100.0%	0.0%	97
2008	67	-	100.0%	0.0%	67
2009	50	-	100.0%	0.0%	50
2010	37	-	100.0%	0.0%	37
2011	15	-	100.0%	0.0%	15
2012	6	-	100.0%	0.0%	6
2013	10	-	100.0%	0.0%	10
2014	2	-	100.0%	0.0%	2
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>2,437</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>2,437</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and  
Test Type  
Catalyst Test Results for 'Light Duty Truck1' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	2	-	100.0%	0.0%	2
1985	3	-	100.0%	0.0%	3
1986	2	-	100.0%	0.0%	2
1987	2	-	100.0%	0.0%	2
1988	4	-	100.0%	0.0%	4
1989	1	-	100.0%	0.0%	1
1990	4	-	100.0%	0.0%	4
1991	-	-	0.0%	0.0%	-
1992	7	-	100.0%	0.0%	7
1993	5	-	100.0%	0.0%	5
1994	16	-	100.0%	0.0%	16
1995	16	-	100.0%	0.0%	16
1996	33	-	100.0%	0.0%	33
1997	44	-	100.0%	0.0%	44
1998	38	-	100.0%	0.0%	38
1999	61	-	100.0%	0.0%	61
2000	64	-	100.0%	0.0%	64
2001	117	-	100.0%	0.0%	117
2002	96	-	100.0%	0.0%	96
2003	93	-	100.0%	0.0%	93
2004	70	-	100.0%	0.0%	70
2005	76	-	100.0%	0.0%	76
2006	70	-	100.0%	0.0%	70
2007	30	-	100.0%	0.0%	30
2008	26	-	100.0%	0.0%	26
2009	9	-	100.0%	0.0%	9
2010	15	-	100.0%	0.0%	15
2011	9	-	100.0%	0.0%	9
2012	5	-	100.0%	0.0%	5
2013	7	-	100.0%	0.0%	7
2014	-	-	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>925</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>925</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Light Duty Truck2' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	-	-	0.0%	0.0%	-
1985	-	-	0.0%	0.0%	-
1986	3	-	100.0%	0.0%	3
1987	1	-	100.0%	0.0%	1
1988	-	-	0.0%	0.0%	-
1989	2	-	100.0%	0.0%	2
1990	2	-	100.0%	0.0%	2
1991	1	-	100.0%	0.0%	1
1992	7	-	100.0%	0.0%	7
1993	8	-	100.0%	0.0%	8
1994	13	-	100.0%	0.0%	13
1995	21	-	100.0%	0.0%	21
1996	22	-	100.0%	0.0%	22
1997	31	-	100.0%	0.0%	31
1998	31	-	100.0%	0.0%	31
1999	29	-	100.0%	0.0%	29
2000	46	-	100.0%	0.0%	46
2001	36	-	100.0%	0.0%	36
2002	41	-	100.0%	0.0%	41
2003	52	-	100.0%	0.0%	52
2004	43	-	100.0%	0.0%	43
2005	33	-	100.0%	0.0%	33
2006	39	-	100.0%	0.0%	39
2007	38	-	100.0%	0.0%	38
2008	16	-	100.0%	0.0%	16
2009	12	-	100.0%	0.0%	12
2010	6	-	100.0%	0.0%	6
2011	7	-	100.0%	0.0%	7
2012	6	-	100.0%	0.0%	6
2013	4	-	100.0%	0.0%	4
2014	-	-	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>550</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>550</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Catalyst Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014					
Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	1	-	100.0%	0.0%	1
1978	1	-	100.0%	0.0%	1
1979	-	-	0.0%	0.0%	-
1980	1	-	100.0%	0.0%	1
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	3	-	100.0%	0.0%	3
1985	2	-	100.0%	0.0%	2
1986	1	1	50.0%	50.0%	2
1987	4	-	100.0%	0.0%	4
1988	1	-	100.0%	0.0%	1
1989	2	-	100.0%	0.0%	2
1990	5	-	100.0%	0.0%	5
1991	1	-	100.0%	0.0%	1
1992	2	-	100.0%	0.0%	2
1993	3	-	100.0%	0.0%	3
1994	3	-	100.0%	0.0%	3
1995	5	-	100.0%	0.0%	5
1996	7	-	100.0%	0.0%	7
1997	6	-	100.0%	0.0%	6
1998	3	-	100.0%	0.0%	3
1999	8	-	100.0%	0.0%	8
2000	11	-	100.0%	0.0%	11
2001	24	-	100.0%	0.0%	24
2002	9	-	100.0%	0.0%	9
2003	10	-	100.0%	0.0%	10
2004	9	-	100.0%	0.0%	9
2005	7	-	100.0%	0.0%	7
2006	13	-	100.0%	0.0%	13
2007	14	-	100.0%	0.0%	14
2008	13	-	100.0%	0.0%	13
2009	7	-	100.0%	0.0%	7
2010	18	-	100.0%	0.0%	18
2011	5	-	100.0%	0.0%	5
2012	8	-	100.0%	0.0%	8
2013	2	-	100.0%	0.0%	2
2014	-	-	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>209</b>	<b>1</b>	<b>99.5%</b>	<b>0.5%</b>	<b>210</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1984	9	-	-	1	90.0%	0.0%	0.0%	10.0%	10
1985	9	-	-	-	100.0%	0.0%	0.0%	0.0%	9
1986	11	-	-	2	84.6%	0.0%	0.0%	15.4%	13
1987	16	-	-	-	100.0%	0.0%	0.0%	0.0%	16
1988	15	-	-	-	100.0%	0.0%	0.0%	0.0%	15
1989	22	-	-	1	95.7%	0.0%	0.0%	4.3%	23
1990	30	-	-	-	100.0%	0.0%	0.0%	0.0%	30
1991	37	-	-	2	94.9%	0.0%	0.0%	5.1%	39
1992	41	-	-	1	97.6%	0.0%	0.0%	2.4%	42
1993	38	1	-	-	97.4%	2.6%	0.0%	0.0%	39
1994	67	-	-	1	98.5%	0.0%	0.0%	1.5%	68
1995	67	-	-	3	95.7%	0.0%	0.0%	4.3%	70
1996	139	1	-	1	98.6%	0.7%	0.0%	0.7%	141
1997	170	-	1	6	96.0%	0.0%	0.6%	3.4%	177
1998	240	1	1	5	97.2%	0.4%	0.4%	2.0%	247
1999	273	2	-	20	92.5%	0.7%	0.0%	6.8%	295
2000	324	-	1	21	93.6%	0.0%	0.3%	6.1%	346
2001	386	1	1	20	94.6%	0.2%	0.2%	4.9%	408
2002	354	-	-	21	94.4%	0.0%	0.0%	5.6%	375
2003	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>2,250</b>	<b>6</b>	<b>4</b>	<b>105</b>	<b>95.1%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>4.4%</b>	<b>2,365</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Truck1' 'First Retest' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1985	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
1986	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1987	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1988	9	-	-	-	100.0%	0.0%	0.0%	0.0%	9
1989	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
1990	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
1991	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1992	11	-	-	-	100.0%	0.0%	0.0%	0.0%	11
1993	10	-	-	1	90.9%	0.0%	0.0%	9.1%	11
1994	22	-	-	2	91.7%	0.0%	0.0%	8.3%	24
1995	39	-	-	2	95.1%	0.0%	0.0%	4.9%	41
1996	64	-	-	7	90.1%	0.0%	0.0%	9.9%	71
1997	62	-	1	6	89.9%	0.0%	1.4%	8.7%	69
1998	71	-	-	3	95.9%	0.0%	0.0%	4.1%	74
1999	109	-	-	3	97.3%	0.0%	0.0%	2.7%	112
2000	119	1	-	6	94.4%	0.8%	0.0%	4.8%	126
2001	162	1	-	6	95.9%	0.6%	0.0%	3.6%	169
2002	154	-	-	4	97.5%	0.0%	0.0%	2.5%	158
2003	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>861</b>	<b>2</b>	<b>1</b>	<b>40</b>	<b>95.2%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>4.4%</b>	<b>904</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Light Duty Truck2' 'First Retest'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	-	-	-	1	0.0%	0.0%	0.0%	100.0%	1
1985	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1986	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1987	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1988	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1989	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1990	2	-	-	1	66.7%	0.0%	0.0%	33.3%	3
1991	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1992	11	-	-	1	91.7%	0.0%	0.0%	8.3%	12
1993	11	-	-	2	84.6%	0.0%	0.0%	15.4%	13
1994	26	-	-	-	100.0%	0.0%	0.0%	0.0%	26
1995	29	-	-	-	100.0%	0.0%	0.0%	0.0%	29
1996	27	1	-	2	90.0%	3.3%	0.0%	6.7%	30
1997	40	-	-	1	97.6%	0.0%	0.0%	2.4%	41
1998	41	-	1	4	89.1%	0.0%	2.2%	8.7%	46
1999	64	-	-	3	95.5%	0.0%	0.0%	4.5%	67
2000	71	-	-	3	95.9%	0.0%	0.0%	4.1%	74
2001	49	-	-	1	98.0%	0.0%	0.0%	2.0%	50
2002	56	-	-	2	96.6%	0.0%	0.0%	3.4%	58
2003	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>440</b>	<b>1</b>	<b>1</b>	<b>21</b>	<b>95.0%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>4.5%</b>	<b>463</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Heavy Duty Vehicle' 'First Retest'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1978	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1985	1	-	-	1	50.0%	0.0%	0.0%	50.0%	2
1986	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1987	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1988	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1989	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1990	4	-	-	1	80.0%	0.0%	0.0%	20.0%	5
1991	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1992	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1993	3	-	-	1	75.0%	0.0%	0.0%	25.0%	4
1994	1	-	-	3	25.0%	0.0%	0.0%	75.0%	4
1995	3	-	-	2	60.0%	0.0%	0.0%	40.0%	5
1996	9	-	-	-	100.0%	0.0%	0.0%	0.0%	9
1997	7	-	-	-	100.0%	0.0%	0.0%	0.0%	7
1998	6	-	-	-	100.0%	0.0%	0.0%	0.0%	6
1999	8	-	1	-	88.9%	0.0%	11.1%	0.0%	9
2000	15	1	-	-	93.8%	6.3%	0.0%	0.0%	16
2001	24	-	-	1	96.0%	0.0%	0.0%	4.0%	25
2002	15	-	-	-	100.0%	0.0%	0.0%	0.0%	15
2003	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>117</b>	<b>1</b>	<b>1</b>	<b>9</b>	<b>91.4%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>7.0%</b>	<b>128</b>

2.3 Initially failed vehicles passing the second or subsequent retest per test type:

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Vehicle' First Retest CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1970	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	3	0.0%	100.0%	3	-	100.0%	0.0%	-	3	0.0%	100.0%	3
1975	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1976	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1977	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1978	3	2	60.0%	40.0%	3	2	60.0%	40.0%	5	-	100.0%	0.0%	5
1979	1	1	50.0%	50.0%	2	-	100.0%	0.0%	1	1	50.0%	50.0%	2
1980	-	3	0.0%	100.0%	-	3	0.0%	100.0%	2	1	66.7%	33.3%	3
1981	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1982	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1983	2	4	33.3%	66.7%	3	3	50.0%	50.0%	5	1	83.3%	16.7%	6
1984	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1985	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1986	2	3	40.0%	60.0%	3	2	60.0%	40.0%	3	2	60.0%	40.0%	5
1987	1	3	25.0%	75.0%	1	3	25.0%	75.0%	2	2	50.0%	50.0%	4
1988	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1989	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1990	8	16	33.3%	66.7%	14	10	58.3%	41.7%	12	12	50.0%	50.0%	24
1991	13	3	81.3%	18.8%	14	2	87.5%	12.5%	14	2	87.5%	12.5%	16
1992	11	4	73.3%	26.7%	12	3	80.0%	20.0%	12	3	80.0%	20.0%	15
1993	10	10	50.0%	50.0%	13	7	65.0%	35.0%	10	10	50.0%	50.0%	20
1994	16	9	64.0%	36.0%	24	1	96.0%	4.0%	16	9	64.0%	36.0%	25
1995	9	10	47.4%	52.6%	15	4	78.9%	21.1%	9	10	47.4%	52.6%	19
<b>Total / Avg:</b>	<b>90</b>	<b>75</b>	<b>54.5%</b>	<b>45.5%</b>	<b>123</b>	<b>42</b>	<b>74.5%</b>	<b>25.5%</b>	<b>106</b>	<b>59</b>	<b>64.2%</b>	<b>35.8%</b>	<b>165</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck1' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	2	5	28.6%	71.4%	2	5	28.6%	71.4%	4	3	57.1%	42.9%	7
1984	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1985	-	2	0.0%	100.0%	1	1	50.0%	50.0%	-	2	0.0%	100.0%	2
1986	3	4	42.9%	57.1%	4	3	57.1%	42.9%	3	4	42.9%	57.1%	7
1987	2	7	22.2%	77.8%	7	2	77.8%	22.2%	2	7	22.2%	77.8%	9
1988	4	3	57.1%	42.9%	6	1	85.7%	14.3%	5	2	71.4%	28.6%	7
1989	2	3	40.0%	60.0%	2	3	40.0%	60.0%	5	-	100.0%	0.0%	5
1990	5	1	83.3%	16.7%	6	-	100.0%	0.0%	5	1	83.3%	16.7%	6
1991	3	3	50.0%	50.0%	4	2	66.7%	33.3%	3	3	50.0%	50.0%	6
1992	1	4	20.0%	80.0%	4	1	80.0%	20.0%	1	4	20.0%	80.0%	5
1993	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1994	3	6	33.3%	66.7%	3	6	33.3%	66.7%	4	5	44.4%	55.6%	9
1995	9	5	64.3%	35.7%	13	1	92.9%	7.1%	9	5	64.3%	35.7%	14
<b>Total / Avg:</b>	<b>37</b>	<b>43</b>	<b>46.3%</b>	<b>53.8%</b>	<b>55</b>	<b>25</b>	<b>68.8%</b>	<b>31.3%</b>	<b>44</b>	<b>36</b>	<b>55.0%</b>	<b>45.0%</b>	<b>80</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Light Duty Truck2' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1981	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1982	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1983	1	4	20.0%	80.0%	1	4	20.0%	80.0%	5	-	100.0%	0.0%	5
1984	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2	-	100.0%	0.0%	2
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1986	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	3
1987	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1988	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	1	50.0%	50.0%	2
1989	1	5	16.7%	83.3%	6	-	100.0%	0.0%	1	5	16.7%	83.3%	6
1990	-	3	0.0%	100.0%	1	2	33.3%	66.7%	-	3	0.0%	100.0%	3
1991	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1992	3	12	20.0%	80.0%	6	9	40.0%	60.0%	5	10	33.3%	66.7%	15
1993	2	5	28.6%	71.4%	5	2	71.4%	28.6%	2	5	28.6%	71.4%	7
1994	3	7	30.0%	70.0%	9	1	90.0%	10.0%	3	7	30.0%	70.0%	10
1995	8	16	33.3%	66.7%	18	6	75.0%	25.0%	10	14	41.7%	58.3%	24
<b>Total / Avg:</b>	<b>27</b>	<b>55</b>	<b>32.9%</b>	<b>67.1%</b>	<b>56</b>	<b>26</b>	<b>68.3%</b>	<b>31.7%</b>	<b>36</b>	<b>46</b>	<b>43.9%</b>	<b>56.1%</b>	<b>82</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Idle Tailpipe Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014													
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	Total Emissions Tests
1940	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1941	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1942	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1943	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2
1944	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1945	3	1	75.0%	25.0%	4	-	100.0%	0.0%	3	1	75.0%	25.0%	4
1946	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1947	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1948	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1949	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1950	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1951	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1952	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1953	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1954	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1955	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1956	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1957	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1958	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1959	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1960	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1961	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1962	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1963	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1964	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1965	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1966	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1967	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1968	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1969	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1970	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1971	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1972	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1973	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1974	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1975	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1976	3	6	33.3%	66.7%	9	-	100.0%	0.0%	3	6	33.3%	66.7%	9
1977	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1978	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1979	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1980	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1981	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1983	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1984	4	7	36.4%	63.6%	9	2	81.8%	18.2%	4	7	36.4%	63.6%	11
1985	-	2	0.0%	100.0%	-	2	0.0%	100.0%	-	2	0.0%	100.0%	2
1986	1	3	25.0%	75.0%	3	1	75.0%	25.0%	2	2	50.0%	50.0%	4
1987	-	5	0.0%	100.0%	2	3	40.0%	60.0%	-	5	0.0%	100.0%	5
1988	1	2	33.3%	66.7%	3	-	100.0%	0.0%	1	2	33.3%	66.7%	3
1989	3	3	50.0%	50.0%	5	1	83.3%	16.7%	3	3	50.0%	50.0%	6
1990	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3	-	100.0%	0.0%	3
1991	1	5	16.7%	83.3%	1	5	16.7%	83.3%	3	3	50.0%	50.0%	6
1992	5	2	71.4%	28.6%	5	2	71.4%	28.6%	6	1	85.7%	14.3%	7
1993	2	4	33.3%	66.7%	3	3	50.0%	50.0%	3	3	50.0%	50.0%	6
1994	7	8	46.7%	53.3%	14	1	93.3%	6.7%	7	8	46.7%	53.3%	15
1995	4	1	80.0%	20.0%	4	1	80.0%	20.0%	4	1	80.0%	20.0%	5
<b>Total / Avg:</b>	<b>43</b>	<b>49</b>	<b>46.7%</b>	<b>53.3%</b>	<b>71</b>	<b>21</b>	<b>77.2%</b>	<b>22.8%</b>	<b>48</b>	<b>44</b>	<b>52.2%</b>	<b>47.8%</b>	<b>92</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014																		
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests	
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	
1984	5	7	41.7%	58.3%	7	5	58.3%	41.7%	5	7	41.7%	58.3%	10	2	83.3%	16.7%	12	
1985	-	5	0.0%	100.0%	4	1	80.0%	20.0%	-	5	0.0%	100.0%	4	1	80.0%	20.0%	5	
1986	4	19	17.4%	82.6%	15	8	65.2%	34.8%	6	17	26.1%	73.9%	14	9	60.9%	39.1%	23	
1987	8	11	42.1%	57.9%	13	6	68.4%	31.6%	11	8	57.9%	42.1%	17	2	89.5%	10.5%	19	
1988	13	33	28.3%	71.7%	32	14	69.6%	30.4%	19	27	41.3%	58.7%	34	12	73.9%	26.1%	46	
1989	12	14	46.2%	53.8%	23	3	88.5%	11.5%	16	10	61.5%	38.5%	17	9	65.4%	34.6%	26	
1990	16	26	38.1%	61.9%	26	16	61.9%	38.1%	21	21	50.0%	50.0%	34	8	81.0%	19.0%	42	
1991	20	49	29.0%	71.0%	47	22	68.1%	31.9%	25	44	36.2%	63.8%	50	19	72.5%	27.5%	69	
1992	20	39	33.9%	66.1%	47	12	79.7%	20.3%	30	29	50.8%	49.2%	38	21	64.4%	35.6%	59	
1993	32	53	37.6%	62.4%	70	15	82.4%	17.6%	56	29	65.9%	34.1%	49	36	57.6%	42.4%	85	
1994	28	54	34.1%	65.9%	80	2	97.6%	2.4%	39	43	47.6%	52.4%	47	35	57.3%	42.7%	82	
1995	27	46	37.0%	63.0%	65	8	89.0%	11.0%	34	39	46.6%	53.4%	52	21	71.2%	28.8%	73	
Total / Avg:	185	356	34.2%	65.8%	429	112	79.3%	20.7%	262	279	48.4%	51.6%	366	175	67.7%	32.3%	541	

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck1' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-
1984	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-	-	0%	0%	-
1985	1	-	100%	0%	1	-	100%	0%	1	-	100%	0%	1	-	100%	0%	1
1986	-	3	0%	100%	-	3	0%	100%	-	3	0%	100%	3	-	100%	0%	3
1987	1	8	11%	89%	7	2	78%	22%	1	8	11%	89%	6	3	67%	33%	9
1988	2	3	40%	60%	2	3	40%	60%	3	2	60%	40%	5	-	100%	0%	5
1989	3	10	23%	77%	9	4	69%	31%	5	8	39%	62%	9	4	69%	31%	13
1990	3	3	50%	50%	3	3	50%	50%	5	1	83%	17%	6	-	100%	0%	6
1991	5	18	22%	78%	13	10	57%	44%	9	14	39%	61%	18	5	78%	22%	23
1992	9	19	32%	68%	14	14	50%	50%	11	17	39%	61%	24	4	86%	14%	28
1993	6	21	22%	78%	18	9	67%	33%	8	19	30%	70%	21	6	78%	22%	27
1994	4	23	15%	85%	18	9	67%	33%	11	16	41%	59%	14	13	52%	48%	27
1995	10	11	48%	52%	18	3	86%	14%	12	9	57%	43%	14	7	67%	33%	21
Total / Avg:	44	119	27%	73%	103	60	63%	37%	66	97	40%	60%	121	42	74%	26%	163

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Light Duty Truck2' 'First Retest' CY 2014																		
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests	
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	
1984	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1	
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	
1986	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1	
1987	2	7	22.2%	77.8%	2	7	22.2%	77.8%	4	5	44.4%	55.6%	9	-	100.0%	0.0%	9	
1988	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	
1989	2	1	66.7%	33.3%	3	-	100.0%	0.0%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	3	
1990	3	2	60.0%	40.0%	5	-	100.0%	0.0%	5	-	100.0%	0.0%	3	2	60.0%	40.0%	5	
1991	3	7	30.0%	70.0%	7	3	70.0%	30.0%	3	7	30.0%	70.0%	7	3	70.0%	30.0%	10	
1992	9	29	23.7%	76.3%	16	22	42.1%	57.9%	11	27	28.9%	71.1%	34	4	89.5%	10.5%	38	
1993	6	25	19.4%	80.6%	19	12	61.3%	38.7%	7	24	22.6%	77.4%	14	17	45.2%	54.8%	31	
1994	14	44	24.1%	75.9%	31	27	53.4%	46.6%	17	41	29.3%	70.7%	40	18	69.0%	31.0%	58	
1995	17	59	22.4%	77.6%	51	25	67.1%	32.9%	29	47	38.2%	61.8%	50	26	65.8%	34.2%	76	
Total / Avg:	57	176	24.5%	75.5%	135	98	57.9%	42.1%	79	154	33.9%	66.1%	162	71	69.5%	30.5%	233	

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type IM240 Tailpipe Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014																	
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	CO Pass	CO Fail	% CO Pass	% CO Fail	HC Pass	HC Fail	% HC Pass	% HC Fail	NOx Pass	NOx Fail	% NOx Pass	% NOx Fail	Total Emissions Tests
1983	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1984	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1985	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1986	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1987	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1988	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1989	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1	-	100.0%	0.0%	1
1990	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1991	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-
1992	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	-	1	0.0%	100.0%	1
1993	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1
1994	1	2	33.3%	66.7%	2	1	66.7%	33.3%	2	1	66.7%	33.3%	1	2	33.3%	66.7%	3
1995	1	2	33.3%	66.7%	1	2	33.3%	66.7%	1	2	33.3%	66.7%	1	2	33.3%	66.7%	3
<b>Total / Avg:</b>	<b>3</b>	<b>6</b>	<b>33.3%</b>	<b>66.7%</b>	<b>4</b>	<b>5</b>	<b>44.4%</b>	<b>55.6%</b>	<b>4</b>	<b>5</b>	<b>44.4%</b>	<b>55.6%</b>	<b>4</b>	<b>5</b>	<b>44.4%</b>	<b>55.6%</b>	<b>9</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	87	189	31.5%	68.5%	268	-	-	100.0%	0.0%	0.0%	268	8	97.1%	2.9%
1997	77	163	32.1%	67.9%	231	-	1	99.6%	0.0%	0.4%	229	11	95.4%	4.6%
1998	111	201	35.6%	64.4%	298	-	-	100.0%	0.0%	0.0%	298	14	95.5%	4.5%
1999	154	261	37.1%	62.9%	399	-	4	99.0%	0.0%	1.0%	402	13	96.9%	3.1%
2000	192	385	33.3%	66.7%	554	-	1	99.8%	0.0%	0.2%	553	24	95.8%	4.2%
2001	285	655	30.3%	69.7%	896	-	4	99.6%	0.0%	0.4%	897	43	95.4%	4.6%
2002	260	423	38.1%	61.9%	654	-	1	99.8%	0.0%	0.2%	654	29	95.8%	4.2%
2003	242	321	43.0%	57.0%	543	-	-	100.0%	0.0%	0.0%	543	20	96.4%	3.6%
2004	212	241	46.8%	53.2%	434	-	1	99.8%	0.0%	0.2%	434	19	95.8%	4.2%
2005	193	255	43.1%	56.9%	437	-	2	99.5%	0.0%	0.5%	437	11	97.5%	2.5%
2006	139	139	50.0%	50.0%	269	-	2	99.3%	0.0%	0.7%	269	9	96.8%	3.2%
2007	113	129	46.7%	53.3%	237	-	-	100.0%	0.0%	0.0%	237	5	97.9%	2.1%
2008	99	96	50.8%	49.2%	192	-	-	100.0%	0.0%	0.0%	192	3	98.5%	1.5%
2009	75	40	65.2%	34.8%	115	-	-	100.0%	0.0%	0.0%	115	-	100.0%	0.0%
2010	52	46	53.1%	46.9%	98	-	-	100.0%	0.0%	0.0%	98	-	100.0%	0.0%
2011	36	20	64.3%	35.7%	56	-	-	100.0%	0.0%	0.0%	56	-	100.0%	0.0%
2012	21	11	65.6%	34.4%	32	-	-	100.0%	0.0%	0.0%	32	-	100.0%	0.0%
2013	15	4	78.9%	21.1%	19	-	-	100.0%	0.0%	0.0%	19	-	100.0%	0.0%
2014	5	4	55.6%	44.4%	9	-	-	100.0%	0.0%	0.0%	9	-	100.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
Total / Ave:	2,368	3,583	39.8%	60.2%	5,741	-	16	99.7%	0.0%	0.3%	5,742	209	96.5%	3.5%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	264	12	95.7%	4.3%	177	99	64.1%	35.9%	150	-	126	54.3%	0.0%	45.7%	276
1997	229	11	95.4%	4.6%	152	88	63.3%	36.7%	145	-	95	60.4%	0.0%	39.6%	240
1998	294	18	94.2%	5.8%	191	121	61.2%	38.8%	206	1	105	66.0%	0.3%	33.7%	312
1999	396	19	95.4%	4.6%	261	154	62.9%	37.1%	254	4	157	61.2%	1.0%	37.8%	415
2000	541	36	93.8%	6.2%	320	257	55.5%	44.5%	354	8	215	61.4%	1.4%	37.3%	577
2001	887	53	94.4%	5.6%	612	328	65.1%	34.9%	431	5	504	45.9%	0.5%	53.6%	940
2002	642	41	94.0%	6.0%	499	184	73.1%	26.9%	365	2	316	53.4%	0.3%	46.3%	683
2003	535	28	95.0%	5.0%	416	147	73.9%	26.1%	322	3	238	57.2%	0.5%	42.3%	563
2004	428	25	94.5%	5.5%	354	99	78.1%	21.9%	263	-	190	58.1%	0.0%	41.9%	453
2005	429	19	95.8%	4.2%	329	119	73.4%	26.6%	268	5	175	59.8%	1.1%	39.1%	448
2006	264	14	95.0%	5.0%	219	59	78.8%	21.2%	180	-	98	64.7%	0.0%	35.3%	278
2007	234	8	96.7%	3.3%	175	67	72.3%	27.7%	162	2	78	66.9%	0.8%	32.2%	242
2008	188	7	96.4%	3.6%	151	44	77.4%	22.6%	129	1	65	66.2%	0.5%	33.3%	195
2009	115	-	100.0%	0.0%	113	2	98.3%	1.7%	75	-	40	65.2%	0.0%	34.8%	115
2010	97	1	99.0%	1.0%	84	14	85.7%	14.3%	55	1	42	56.1%	1.0%	42.9%	98
2011	56	-	100.0%	0.0%	55	1	98.2%	1.8%	37	-	19	66.1%	0.0%	33.9%	56
2012	32	-	100.0%	0.0%	32	-	100.0%	0.0%	21	-	11	65.6%	0.0%	34.4%	32
2013	19	-	100.0%	0.0%	19	-	100.0%	0.0%	15	-	4	78.9%	0.0%	21.1%	19
2014	9	-	100.0%	0.0%	9	-	100.0%	0.0%	5	-	4	55.6%	0.0%	44.4%	9
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>5,659</b>	<b>292</b>	<b>95.1%</b>	<b>4.9%</b>	<b>4,168</b>	<b>1,783</b>	<b>70.0%</b>	<b>30.0%</b>	<b>3,437</b>	<b>32</b>	<b>2,482</b>	<b>57.8%</b>	<b>0.5%</b>	<b>41.7%</b>	<b>5,951</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
OBD Test Results for 'Light Duty Truck1' 'First Retest'  
CY 2014

Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	33	65	33.7%	66.3%	97	-	-	100.0%	0.0%	0.0%	97	1	99.0%	1.0%
1997	32	86	27.1%	72.9%	117	-	-	100.0%	0.0%	0.0%	117	1	99.2%	0.8%
1998	33	80	29.2%	70.8%	111	-	-	100.0%	0.0%	0.0%	111	2	98.2%	1.8%
1999	41	75	35.3%	64.7%	115	-	-	100.0%	0.0%	0.0%	114	2	98.3%	1.7%
2000	77	126	37.9%	62.1%	200	-	-	100.0%	0.0%	0.0%	200	3	98.5%	1.5%
2001	96	236	28.9%	71.1%	319	-	1	99.7%	0.0%	0.3%	319	13	96.1%	3.9%
2002	117	212	35.6%	64.4%	312	-	-	100.0%	0.0%	0.0%	312	17	94.8%	5.2%
2003	83	200	29.3%	70.7%	273	-	1	99.6%	0.0%	0.4%	273	10	96.5%	3.5%
2004	74	118	38.5%	61.5%	185	-	-	100.0%	0.0%	0.0%	185	7	96.4%	3.6%
2005	100	101	49.8%	50.2%	198	-	1	99.5%	0.0%	0.5%	198	3	98.5%	1.5%
2006	61	82	42.7%	57.3%	138	-	-	100.0%	0.0%	0.0%	138	5	96.5%	3.5%
2007	32	26	55.2%	44.8%	57	-	-	100.0%	0.0%	0.0%	57	1	98.3%	1.7%
2008	22	41	34.9%	65.1%	59	-	-	100.0%	0.0%	0.0%	59	4	93.7%	6.3%
2009	16	13	55.2%	44.8%	27	-	-	100.0%	0.0%	0.0%	27	2	93.1%	6.9%
2010	14	14	50.0%	50.0%	28	-	-	100.0%	0.0%	0.0%	28	-	100.0%	0.0%
2011	12	12	50.0%	50.0%	24	-	-	100.0%	0.0%	0.0%	24	-	100.0%	0.0%
2012	4	3	57.1%	42.9%	5	-	2	71.4%	0.0%	28.6%	5	2	71.4%	28.6%
2013	11	3	78.6%	21.4%	14	-	-	100.0%	0.0%	0.0%	14	-	100.0%	0.0%
2014	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
<b>Total / Avg:</b>	<b>860</b>	<b>1,493</b>	<b>36.5%</b>	<b>63.5%</b>	<b>2,281</b>	<b>-</b>	<b>5</b>	<b>99.8%</b>	<b>0.0%</b>	<b>0.2%</b>	<b>2,280</b>	<b>73</b>	<b>96.9%</b>	<b>3.1%</b>

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	94	4	95.9%	4.1%	64	34	65.3%	34.7%	51	-	47	52.0%	0.0%	48.0%	98
1997	116	2	98.3%	1.7%	55	63	46.6%	53.4%	76	-	42	64.4%	0.0%	35.6%	118
1998	107	6	94.7%	5.3%	48	65	42.5%	57.5%	89	1	23	78.8%	0.9%	20.4%	113
1999	112	4	96.6%	3.4%	68	48	58.6%	41.4%	80	-	36	69.0%	0.0%	31.0%	116
2000	198	5	97.5%	2.5%	141	62	69.5%	30.5%	119	-	84	58.6%	0.0%	41.4%	203
2001	315	17	94.9%	5.1%	232	100	69.9%	30.1%	145	-	187	43.7%	0.0%	56.3%	332
2002	310	19	94.2%	5.8%	236	93	71.7%	28.3%	151	1	177	45.9%	0.3%	53.8%	329
2003	263	20	92.9%	7.1%	166	117	58.7%	41.3%	158	1	124	55.8%	0.4%	43.8%	283
2004	180	12	93.8%	6.3%	124	68	64.6%	35.4%	108	1	83	56.3%	0.5%	43.2%	192
2005	195	6	97.0%	3.0%	167	34	83.1%	16.9%	120	1	80	59.7%	0.5%	39.8%	201
2006	137	6	95.8%	4.2%	108	35	75.5%	24.5%	83	2	58	58.0%	1.4%	40.6%	143
2007	57	1	98.3%	1.7%	49	9	84.5%	15.5%	36	-	22	62.1%	0.0%	37.9%	58
2008	59	4	93.7%	6.3%	39	24	61.9%	38.1%	38	-	25	60.3%	0.0%	39.7%	63
2009	26	3	89.7%	10.3%	24	5	82.8%	17.2%	19	-	10	65.5%	0.0%	34.5%	29
2010	28	-	100.0%	0.0%	27	1	96.4%	3.6%	14	-	14	50.0%	0.0%	50.0%	28
2011	24	-	100.0%	0.0%	24	-	100.0%	0.0%	12	-	12	50.0%	0.0%	50.0%	24
2012	5	2	71.4%	28.6%	5	2	71.4%	28.6%	4	-	3	57.1%	0.0%	42.9%	7
2013	14	-	100.0%	0.0%	14	-	100.0%	0.0%	11	-	3	78.6%	0.0%	21.4%	14
2014	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>2,242</b>	<b>111</b>	<b>95.3%</b>	<b>4.7%</b>	<b>1,593</b>	<b>760</b>	<b>67.7%</b>	<b>32.3%</b>	<b>1,316</b>	<b>7</b>	<b>1,030</b>	<b>55.9%</b>	<b>0.3%</b>	<b>43.8%</b>	<b>2,353</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Light Duty Truck2' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	15	40	27.3%	72.7%	53	-	-	100.0%	0.0%	0.0%	53	2	96.4%	3.6%
1997	24	40	37.5%	62.5%	61	-	-	100.0%	0.0%	0.0%	61	3	95.3%	4.7%
1998	20	46	30.3%	69.7%	63	-	-	100.0%	0.0%	0.0%	63	3	95.5%	4.5%
1999	44	94	31.9%	68.1%	131	-	-	100.0%	0.0%	0.0%	131	7	94.9%	5.1%
2000	23	37	38.3%	61.7%	58	-	-	100.0%	0.0%	0.0%	58	2	96.7%	3.3%
2001	32	73	30.5%	69.5%	102	-	-	100.0%	0.0%	0.0%	102	3	97.1%	2.9%
2002	32	55	36.8%	63.2%	83	-	-	100.0%	0.0%	0.0%	83	4	95.4%	4.6%
2003	47	76	38.2%	61.8%	118	-	-	100.0%	0.0%	0.0%	118	5	95.9%	4.1%
2004	33	45	42.3%	57.7%	77	-	-	100.0%	0.0%	0.0%	77	1	98.7%	1.3%
2005	29	55	34.5%	65.5%	81	-	-	100.0%	0.0%	0.0%	81	3	96.4%	3.6%
2006	22	49	31.0%	69.0%	66	-	-	100.0%	0.0%	0.0%	66	5	93.0%	7.0%
2007	19	20	48.7%	51.3%	38	-	-	100.0%	0.0%	0.0%	38	1	97.4%	2.6%
2008	23	21	52.3%	47.7%	43	-	-	100.0%	0.0%	0.0%	43	1	97.7%	2.3%
2009	12	4	75.0%	25.0%	16	-	-	100.0%	0.0%	0.0%	16	-	100.0%	0.0%
2010	12	4	75.0%	25.0%	16	-	-	100.0%	0.0%	0.0%	16	-	100.0%	0.0%
2011	4	9	30.8%	69.2%	13	-	-	100.0%	0.0%	0.0%	13	-	100.0%	0.0%
2012	4	1	80.0%	20.0%	5	-	-	100.0%	0.0%	0.0%	5	-	100.0%	0.0%
2013	4	3	57.1%	42.9%	7	-	-	100.0%	0.0%	0.0%	7	-	100.0%	0.0%
2014	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
Total / Avg:	401	672	37.4%	62.6%	1,033	-	-	100.0%	0.0%	0.0%	1,033	40	96.3%	3.7%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	53	2	96.4%	3.6%	28	27	50.9%	49.1%	36	-	19	65.5%	0.0%	34.5%	55
1997	59	5	92.2%	7.8%	29	35	45.3%	54.7%	48	-	16	75.0%	0.0%	25.0%	64
1998	63	3	95.5%	4.5%	39	27	59.1%	40.9%	37	-	29	56.1%	0.0%	43.9%	66
1999	129	9	93.5%	6.5%	84	54	60.9%	39.1%	68	3	67	49.3%	2.2%	48.6%	138
2000	58	2	96.7%	3.3%	33	27	55.0%	45.0%	48	-	12	80.0%	0.0%	20.0%	60
2001	102	3	97.1%	2.9%	75	30	71.4%	28.6%	46	2	57	43.8%	1.9%	54.3%	105
2002	82	5	94.3%	5.7%	64	23	73.6%	26.4%	44	-	43	50.6%	0.0%	49.4%	87
2003	113	10	91.9%	8.1%	74	49	60.2%	39.8%	82	-	41	66.7%	0.0%	33.3%	123
2004	76	2	97.4%	2.6%	55	23	70.5%	29.5%	43	-	35	55.1%	0.0%	44.9%	78
2005	79	5	94.0%	6.0%	57	27	67.9%	32.1%	51	-	33	60.7%	0.0%	39.3%	84
2006	65	6	91.5%	8.5%	42	29	59.2%	40.8%	43	-	28	60.6%	0.0%	39.4%	71
2007	38	1	97.4%	2.6%	32	7	82.1%	17.9%	23	-	16	59.0%	0.0%	41.0%	39
2008	43	1	97.7%	2.3%	36	8	81.8%	18.2%	29	1	14	65.9%	2.3%	31.8%	44
2009	16	-	100.0%	0.0%	14	2	87.5%	12.5%	12	-	4	75.0%	0.0%	25.0%	16
2010	16	-	100.0%	0.0%	16	-	100.0%	0.0%	12	-	4	75.0%	0.0%	25.0%	16
2011	13	-	100.0%	0.0%	7	6	53.8%	46.2%	10	-	3	76.9%	0.0%	23.1%	13
2012	5	-	100.0%	0.0%	5	-	100.0%	0.0%	4	-	1	80.0%	0.0%	20.0%	5
2013	7	-	100.0%	0.0%	7	-	100.0%	0.0%	4	-	3	57.1%	0.0%	42.9%	7
2014	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>1,019</b>	<b>54</b>	<b>95.0%</b>	<b>5.0%</b>	<b>699</b>	<b>374</b>	<b>65.1%</b>	<b>34.9%</b>	<b>642</b>	<b>6</b>	<b>425</b>	<b>59.8%</b>	<b>0.6%</b>	<b>39.6%</b>	<b>1,073</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type OBD Test Results for 'Heavy Duty Vehicle' 'First Retest' CY 2014														
Vehicle Year	Emissions Pass	Emissions Fail	% Overall Pass	% Overall Fail	DLC Pass	DLC Missing	DLC Damaged	% DLC Pass	% DLC Missing	% DLC Damaged	KOEO Pass	KOEO Fail	% KOEO Pass	% KOEO Fail
1996	-	3	0.0%	100.0%	1	-	-	100.0%	0.0%	0.0%	1	2	33.3%	66.7%
1997	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
1998	1	1	50.0%	50.0%	1	-	-	100.0%	0.0%	0.0%	1	1	50.0%	50.0%
1999	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2000	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
2001	4	11	26.7%	73.3%	14	-	-	100.0%	0.0%	0.0%	14	1	93.3%	6.7%
2002	-	2	0.0%	100.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2003	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
2004	2	2	50.0%	50.0%	4	-	-	100.0%	0.0%	0.0%	4	-	100.0%	0.0%
2005	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
2006	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2007	1	1	50.0%	50.0%	2	-	-	100.0%	0.0%	0.0%	2	-	100.0%	0.0%
2008	-	1	0.0%	100.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
2009	-	3	0.0%	100.0%	3	-	-	100.0%	0.0%	0.0%	3	-	100.0%	0.0%
2010	-	6	0.0%	100.0%	6	-	-	100.0%	0.0%	0.0%	6	-	100.0%	0.0%
2011	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
2012	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
2013	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1	-	100.0%	0.0%
2014	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
2015	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-	-	0.0%	0.0%
Total / Avg:	16	30	34.8%	65.2%	42	-	-	100.0%	0.0%	0.0%	42	4	91.3%	8.7%

Vehicle Year	KOER Pass	KOER Fail	% KOER Pass	% KOER Fail	MIL Pass	MIL Fail	% MIL Pass	% MIL Fail	Ready Pass	Ready Non Comm	Ready Fail	% Ready Pass	% Ready Non Comm	% Ready Fail	Total Emissions Tests
1996	1	2	33.3%	66.7%	-	3	0.0%	100.0%	1	-	2	33.3%	0.0%	66.7%	3
1997	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
1998	1	1	50.0%	50.0%	1	1	50.0%	50.0%	1	-	1	50.0%	0.0%	50.0%	2
1999	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2
2000	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
2001	14	1	93.3%	6.7%	10	5	66.7%	33.3%	8	-	7	53.3%	0.0%	46.7%	15
2002	2	-	100.0%	0.0%	2	-	100.0%	0.0%	-	-	2	0.0%	0.0%	100.0%	2
2003	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
2004	4	-	100.0%	0.0%	4	-	100.0%	0.0%	2	-	2	50.0%	0.0%	50.0%	4
2005	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
2006	2	-	100.0%	0.0%	2	-	100.0%	0.0%	2	-	-	100.0%	0.0%	0.0%	2
2007	2	-	100.0%	0.0%	2	-	100.0%	0.0%	1	-	1	50.0%	0.0%	50.0%	2
2008	1	-	100.0%	0.0%	1	-	100.0%	0.0%	-	-	1	0.0%	0.0%	100.0%	1
2009	3	-	100.0%	0.0%	3	-	100.0%	0.0%	-	-	3	0.0%	0.0%	100.0%	3
2010	6	-	100.0%	0.0%	4	2	66.7%	33.3%	1	-	5	16.7%	0.0%	83.3%	6
2011	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
2012	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
2013	1	-	100.0%	0.0%	1	-	100.0%	0.0%	1	-	-	100.0%	0.0%	0.0%	1
2014	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-	-	0.0%	0.0%	-	-	-	0.0%	0.0%	0.0%	-
Total / Avg:	42	4	91.3%	8.7%	35	11	76.1%	23.9%	22	-	24	47.8%	0.0%	52.2%	46

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and  
Test Type  
Catalyst Test Results for 'Light Duty Vehicle' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	5	-	100.0%	0.0%	5
1985	2	-	100.0%	0.0%	2
1986	16	-	100.0%	0.0%	16
1987	16	-	100.0%	0.0%	16
1988	25	-	100.0%	0.0%	25
1989	15	-	100.0%	0.0%	15
1990	28	-	100.0%	0.0%	28
1991	50	-	100.0%	0.0%	50
1992	48	-	100.0%	0.0%	48
1993	53	-	100.0%	0.0%	53
1994	64	-	100.0%	0.0%	64
1995	61	-	100.0%	0.0%	61
1996	156	-	100.0%	0.0%	156
1997	128	-	100.0%	0.0%	128
1998	158	-	100.0%	0.0%	158
1999	210	-	100.0%	0.0%	210
2000	317	-	100.0%	0.0%	317
2001	466	-	100.0%	0.0%	466
2002	312	-	100.0%	0.0%	312
2003	259	-	100.0%	0.0%	259
2004	204	-	100.0%	0.0%	204
2005	208	-	100.0%	0.0%	208
2006	125	-	100.0%	0.0%	125
2007	112	-	100.0%	0.0%	112
2008	94	-	100.0%	0.0%	94
2009	41	-	100.0%	0.0%	41
2010	33	-	100.0%	0.0%	33
2011	20	-	100.0%	0.0%	20
2012	10	-	100.0%	0.0%	10
2013	3	-	100.0%	0.0%	3
2014	4	-	100.0%	0.0%	4
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>3,243</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>3,243</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and  
Test Type  
Catalyst Test Results for 'Light Duty Truck1' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	-	-	0.0%	0.0%	-
1984	-	-	0.0%	0.0%	-
1985	-	-	0.0%	0.0%	-
1986	7	-	100.0%	0.0%	7
1987	10	-	100.0%	0.0%	10
1988	9	-	100.0%	0.0%	9
1989	10	-	100.0%	0.0%	10
1990	8	-	100.0%	0.0%	8
1991	18	-	100.0%	0.0%	18
1992	15	-	100.0%	0.0%	15
1993	16	-	100.0%	0.0%	16
1994	14	-	100.0%	0.0%	14
1995	26	-	100.0%	0.0%	26
1996	52	-	100.0%	0.0%	52
1997	71	-	100.0%	0.0%	71
1998	70	-	100.0%	0.0%	70
1999	57	-	100.0%	0.0%	57
2000	120	-	100.0%	0.0%	120
2001	174	-	100.0%	0.0%	174
2002	148	-	100.0%	0.0%	148
2003	165	-	100.0%	0.0%	165
2004	92	-	100.0%	0.0%	92
2005	94	-	100.0%	0.0%	94
2006	62	-	100.0%	0.0%	62
2007	27	-	100.0%	0.0%	27
2008	32	-	100.0%	0.0%	32
2009	12	-	100.0%	0.0%	12
2010	7	-	100.0%	0.0%	7
2011	10	-	100.0%	0.0%	10
2012	3	-	100.0%	0.0%	3
2013	7	-	100.0%	0.0%	7
2014	-	-	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>1,336</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>1,336</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Light Duty Truck2' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	-	-	0.0%	0.0%	-
1977	-	-	0.0%	0.0%	-
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	-	-	0.0%	0.0%	-
1981	-	-	0.0%	0.0%	-
1982	1	-	100.0%	0.0%	1
1983	-	-	0.0%	0.0%	-
1984	2	-	100.0%	0.0%	2
1985	-	-	0.0%	0.0%	-
1986	3	-	100.0%	0.0%	3
1987	7	-	100.0%	0.0%	7
1988	2	-	100.0%	0.0%	2
1989	6	-	100.0%	0.0%	6
1990	5	-	100.0%	0.0%	5
1991	6	-	100.0%	0.0%	6
1992	26	-	100.0%	0.0%	26
1993	17	-	100.0%	0.0%	17
1994	43	-	100.0%	0.0%	43
1995	59	-	100.0%	0.0%	59
1996	32	-	100.0%	0.0%	32
1997	25	-	100.0%	0.0%	25
1998	34	-	100.0%	0.0%	34
1999	69	-	100.0%	0.0%	69
2000	39	-	100.0%	0.0%	39
2001	51	-	100.0%	0.0%	51
2002	43	-	100.0%	0.0%	43
2003	61	-	100.0%	0.0%	61
2004	38	-	100.0%	0.0%	38
2005	47	-	100.0%	0.0%	47
2006	43	-	100.0%	0.0%	43
2007	19	-	100.0%	0.0%	19
2008	22	-	100.0%	0.0%	22
2009	6	-	100.0%	0.0%	6
2010	4	-	100.0%	0.0%	4
2011	8	-	100.0%	0.0%	8
2012	1	-	100.0%	0.0%	1
2013	2	-	100.0%	0.0%	2
2014	1	-	100.0%	0.0%	1
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>722</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>722</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle,  
and Test Type  
Catalyst Test Results for 'Heavy Duty Vehicle' 'First Retest'  
CY 2014

Vehicle Year	CAT Pass	CAT Fail	% CAT Pass	% CAT Fail	Total Emissions Tests
1976	5	-	100.0%	0.0%	5
1977	1	-	100.0%	0.0%	1
1978	-	-	0.0%	0.0%	-
1979	-	-	0.0%	0.0%	-
1980	1	-	100.0%	0.0%	1
1981	-	-	0.0%	0.0%	-
1982	-	-	0.0%	0.0%	-
1983	1	-	100.0%	0.0%	1
1984	4	-	100.0%	0.0%	4
1985	1	-	100.0%	0.0%	1
1986	3	-	100.0%	0.0%	3
1987	3	-	100.0%	0.0%	3
1988	1	-	100.0%	0.0%	1
1989	5	-	100.0%	0.0%	5
1990	2	-	100.0%	0.0%	2
1991	1	-	100.0%	0.0%	1
1992	3	-	100.0%	0.0%	3
1993	5	-	100.0%	0.0%	5
1994	9	-	100.0%	0.0%	9
1995	4	-	100.0%	0.0%	4
1996	11	-	100.0%	0.0%	11
1997	3	-	100.0%	0.0%	3
1998	3	-	100.0%	0.0%	3
1999	8	-	100.0%	0.0%	8
2000	4	-	100.0%	0.0%	4
2001	17	-	100.0%	0.0%	17
2002	4	-	100.0%	0.0%	4
2003	5	-	100.0%	0.0%	5
2004	5	-	100.0%	0.0%	5
2005	2	-	100.0%	0.0%	2
2006	5	-	100.0%	0.0%	5
2007	2	-	100.0%	0.0%	2
2008	2	-	100.0%	0.0%	2
2009	4	-	100.0%	0.0%	4
2010	8	-	100.0%	0.0%	8
2011	2	-	100.0%	0.0%	2
2012	-	-	0.0%	0.0%	-
2013	1	-	100.0%	0.0%	1
2014	-	-	0.0%	0.0%	-
2015	-	-	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>135</b>	<b>-</b>	<b>100.0%</b>	<b>0.0%</b>	<b>135</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Vehicle' 'First Retest' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	6	-	-	-	100.0%	0.0%	0.0%	0.0%	6
1985	2	-	-	1	66.7%	0.0%	0.0%	33.3%	3
1986	16	-	-	1	94.1%	0.0%	0.0%	5.9%	17
1987	16	-	-	-	100.0%	0.0%	0.0%	0.0%	16
1988	25	-	-	1	96.2%	0.0%	0.0%	3.8%	26
1989	15	-	-	-	100.0%	0.0%	0.0%	0.0%	15
1990	28	-	1	-	96.6%	0.0%	3.4%	0.0%	29
1991	52	-	-	2	96.3%	0.0%	0.0%	3.7%	54
1992	47	1	1	1	94.0%	2.0%	2.0%	2.0%	50
1993	53	-	-	1	98.1%	0.0%	0.0%	1.9%	54
1994	66	-	-	1	98.5%	0.0%	0.0%	1.5%	67
1995	64	-	-	1	98.5%	0.0%	0.0%	1.5%	65
1996	154	-	1	4	96.9%	0.0%	0.6%	2.5%	159
1997	128	-	1	2	97.7%	0.0%	0.8%	1.5%	131
1998	159	1	1	5	95.8%	0.6%	0.6%	3.0%	166
1999	224	-	1	7	96.6%	0.0%	0.4%	3.0%	232
2000	332	1	-	4	98.5%	0.3%	0.0%	1.2%	337
2001	475	1	1	13	96.9%	0.2%	0.2%	2.7%	490
2002	326	-	2	9	96.7%	0.0%	0.6%	2.7%	337
2003	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>2,189</b>	<b>4</b>	<b>9</b>	<b>53</b>	<b>97.1%</b>	<b>0.2%</b>	<b>0.4%</b>	<b>2.4%</b>	<b>2,255</b>

CFR 40, Part 51.366 (a)(2)(i) Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type Gas Cap Test Results for 'Light Duty Truck1' 'First Retest' CY 2014									
Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1985	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1986	6	-	-	2	75.0%	0.0%	0.0%	25.0%	8
1987	10	-	-	-	100.0%	0.0%	0.0%	0.0%	10
1988	9	-	-	-	100.0%	0.0%	0.0%	0.0%	9
1989	10	-	-	-	100.0%	0.0%	0.0%	0.0%	10
1990	8	-	-	-	100.0%	0.0%	0.0%	0.0%	8
1991	18	-	-	1	94.7%	0.0%	0.0%	5.3%	19
1992	12	-	-	3	80.0%	0.0%	0.0%	20.0%	15
1993	17	-	-	-	100.0%	0.0%	0.0%	0.0%	17
1994	17	-	-	-	100.0%	0.0%	0.0%	0.0%	17
1995	27	-	-	1	96.4%	0.0%	0.0%	3.6%	28
1996	53	-	-	1	98.1%	0.0%	0.0%	1.9%	54
1997	76	-	-	7	91.6%	0.0%	0.0%	8.4%	83
1998	67	1	-	10	85.9%	1.3%	0.0%	12.8%	78
1999	57	-	-	5	91.9%	0.0%	0.0%	8.1%	62
2000	121	-	1	6	94.5%	0.0%	0.8%	4.7%	128
2001	178	-	-	2	98.9%	0.0%	0.0%	1.1%	180
2002	148	-	-	2	98.7%	0.0%	0.0%	1.3%	150
2003	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>835</b>	<b>1</b>	<b>1</b>	<b>40</b>	<b>95.2%</b>	<b>0.1%</b>	<b>0.1%</b>	<b>4.6%</b>	<b>877</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Light Duty Truck2' 'First Retest'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1977	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1983	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1984	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1985	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1986	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1987	7	-	-	-	100.0%	0.0%	0.0%	0.0%	7
1988	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1989	6	-	-	1	85.7%	0.0%	0.0%	14.3%	7
1990	6	-	1	-	85.7%	0.0%	14.3%	0.0%	7
1991	6	-	-	-	100.0%	0.0%	0.0%	0.0%	6
1992	26	-	-	1	96.3%	0.0%	0.0%	3.7%	27
1993	18	-	-	1	94.7%	0.0%	0.0%	5.3%	19
1994	42	-	-	1	97.7%	0.0%	0.0%	2.3%	43
1995	56	1	2	1	93.3%	1.7%	3.3%	1.7%	60
1996	33	-	-	1	97.1%	0.0%	0.0%	2.9%	34
1997	26	-	1	1	92.9%	0.0%	3.6%	3.6%	28
1998	36	-	-	2	94.7%	0.0%	0.0%	5.3%	38
1999	68	-	1	7	89.5%	0.0%	1.3%	9.2%	76
2000	41	-	-	-	100.0%	0.0%	0.0%	0.0%	41
2001	51	-	-	1	98.1%	0.0%	0.0%	1.9%	52
2002	45	-	-	-	100.0%	0.0%	0.0%	0.0%	45
2003	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>475</b>	<b>1</b>	<b>5</b>	<b>17</b>	<b>95.4%</b>	<b>0.2%</b>	<b>1.0%</b>	<b>3.4%</b>	<b>498</b>

CFR 40, Part 51.366 (a)(2)(i)  
Number and % of Vehicles Failing by Model Year, Vehicle, and Test Type  
Gas Cap Test Results for 'Heavy Duty Vehicle' 'First Retest'  
CY 2014

Vehicle Year	CAP Pass	CAP Missing	CAP Damaged	CAP Fail	% CAP Pass	% CAP Missing	% CAP Damaged	% CAP Fail	Total Emissions Test
1976	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
1977	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1978	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1979	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1980	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1981	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1982	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
1983	-	-	-	1	0.0%	0.0%	0.0%	100.0%	1
1984	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1985	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1986	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1987	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1988	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1989	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
1990	2	-	-	-	100.0%	0.0%	0.0%	0.0%	2
1991	1	-	-	-	100.0%	0.0%	0.0%	0.0%	1
1992	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1993	6	-	-	1	85.7%	0.0%	0.0%	14.3%	7
1994	7	-	1	1	77.8%	0.0%	11.1%	11.1%	9
1995	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
1996	11	-	-	1	91.7%	0.0%	0.0%	8.3%	12
1997	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1998	3	-	-	-	100.0%	0.0%	0.0%	0.0%	3
1999	8	-	-	-	100.0%	0.0%	0.0%	0.0%	8
2000	5	-	-	-	100.0%	0.0%	0.0%	0.0%	5
2001	17	-	-	1	94.4%	0.0%	0.0%	5.6%	18
2002	4	-	-	-	100.0%	0.0%	0.0%	0.0%	4
2003	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2004	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2008	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2009	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2010	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2011	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2012	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2013	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2014	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
2015	-	-	-	-	0.0%	0.0%	0.0%	0.0%	-
<b>Total / Avg:</b>	<b>98</b>	<b>-</b>	<b>1</b>	<b>5</b>	<b>94.2%</b>	<b>0.0%</b>	<b>1.0%</b>	<b>4.8%</b>	<b>104</b>

## 2.4 Initially failed vehicles receiving a waiver

CFR 40 Part 51.366 (a) (2)(v), Number of Waivers Issued by Model Year and Month 2014													
Model Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
2016													-
2015													-
2014													-
2013													-
2012													-
2011													-
2010													-
2009	1	1				1			2				5
2008	2					1	2			3	1		9
2007	2		1	1	5	4		6	2	5	3	1	30
2006	1	7		5	4	5	5		3	3	2		35
2005	2	9	4	3	4	1	3	4		7	6	8	51
2004	2	5	3	5	1	6	3	2	4	4	7	3	45
2003	7	5	5	2	2	3	1	5	2	2	2	5	41
2002	8	11	7	3	6	2	5	4	6	8	6	2	68
2001	4	13	9	2	2	2	3	1	4	10	5	7	62
2000	3	9	2	2	4	3	2	1	1	3		6	36
1999	5	3	1	4	3	2	3	4	2	1	7	2	37
1998	2	7	3	3	2	4	4		3	6	5	3	42
1997	1	4	6	2	5	1	2	2	4	3	7	6	43
1996	2	1	2	1	2	2	3	2	5	4	2	2	28
1995	5	5	3	3	3	5	4	5	4		3	3	43
1994	4	5	11	2	5	3	2	2	6	1	1	2	44
1993	3	4		3	2	5	3	3	2			1	26
1992	2	3		1	2	2	2	2	5	1	5	4	29
1991			4	3	4	1	4	4	2		4	3	29
1990	1		1	2	2	4	1	1		5		1	18
1989	2		6	2	4	2		1		2	1	3	23
1988	1				3	3	3	1	2		2		15
1987	1	2	2	1	1	2	2	3	1	4	1	1	21
1986	1				2	2	1	1	3		2		12
1985			1	3	2	1	1	2		2		1	13
1984				2		1	2	1	1				7
1983		1	3	1	2			3		2	3		15
1982				2	1	3	1	4	1		4		16
1981		1	1	1			2		0	1			6
1980	1		3		2	1	3	1	3	3		1	18
1979	1			3	1			2	1		3		11
1978			2	3	2	3	4	3				1	18
1977	1						1	2	2	1	2		9
1976	1			2		2	2	2	3				12
1975				2	1	1	3	4	1		1		13
1974				1			2	2		1			6
1973				2		1	2	2	1			1	9
1972				2	1		1	5					9
1971					2	2	1	2				1	8
1970				1	4		3	2	2	1		1	14
1969					3	2	1		1	1	1	2	11
1968		1		2				1					4
Totals	66	97	80	77	89	83	87	92	79	84	86	71	991
Initial Test Failures													22,818
Overall Waiver Rate													4.3%

## 2.5 Vehicles with no known final outcome ("disappearing vehicles")

DC is reporting vehicles with no known outcome as those receiving an initial test that do not return and pass within 30 days, 60 days or 6 months (note that this was performed with data to the end of December 2014).

Vehicles with no known final outcome CY2014				
Vehicle Year	Initial Test Fail Count	No Pass after 30d	No Pass after 60d	No Pass after 180d
1940	-	-	-	-
1941	-	-	-	-
1942	-	-	-	-
1943	1	1	-	-
1944	1	-	-	-
1945	3	2	1	-
1966	1	1	1	1
1967	-	-	-	-
1968	5	2	1	1
1969	2	1	-	-
1970	7	-	-	-
1971	2	1	1	1
1972	4	4	4	4
1973	3	1	1	1
1974	4	4	4	4
1975	7	3	3	3
1976	6	4	3	2
1977	5	4	3	2
1978	9	5	-	-
1979	4	2	2	1
1980	9	6	3	3
1981	5	3	1	1
1982	3	1	1	1
1983	20	9	5	4
1984	33	19	15	11
1985	39	17	14	10
1986	59	30	28	23
1987	62	27	23	16
1988	97	41	27	22
1989	95	38	35	28
1990	126	45	34	28
1991	166	63	46	39
1992	216	85	67	56
1993	242	86	67	59
1994	304	113	82	65
1995	390	139	110	86
1996	673	264	206	161
1997	823	337	268	214
1998	1,084	359	268	199
1999	1,408	510	386	307
2000	1,764	575	439	333
2001	2,166	764	591	451
2002	1,986	629	449	338
2003	2,105	597	454	339
2004	1,785	455	321	250
2005	1,757	392	274	202
2006	1,523	372	251	171
2007	1,068	225	158	108
2008	1,118	211	140	79
2009	707	109	58	33
2010	682	79	50	31
2011	540	42	27	16
2012	361	40	19	14
2013	287	26	16	6
2014	168	12	9	7
2015	20	1	1	1
<b>Total / Avg:</b>	<b>23,955</b>	<b>6,756</b>	<b>4,967</b>	<b>3,732</b>

**2.6 Passing and failing the on-board diagnostic check;**

These data are provided earlier in the failure rate by test type charts.

**2.7 Failing the on-board diagnostic check and passing the tailpipe test**

There are no cases in DC's I/M testing in which an OBDII test reverts to a tailpipe emissions test; therefore there are no data to be reported for this item.

**2.8 Failing the on-board diagnostic check and failing the tailpipe test**

There are no cases in DC's I/M testing in which an OBDII test reverts to a tailpipe emissions test. Hence, there are no data to be reported for this item.

**2.9 Passing the on-board diagnostic check and failing the I/M gas cap evaporative system test, failing the on-board diagnostic check and passing the I/M gas cap evaporative system test, passing both the on-board diagnostic check and I/M gas cap evaporative system test, failing both the on-board diagnostic check and I/M gas cap evaporative system test.**

OBD Test and Fuel Cap Pressure Test combinations for 'Light Duty Vehicle' 'Initial Test'								
CY2014								
Vehicle Year	CAP Pass, OBD Pass	CAP Fail, OBD Pass	CAP Pass, OBD Fail	CAP Fail, OBD Fail	% CAP Pass, OBD Pass	% CAP Fail, OBD Pass	% CAP Pass, OBD Fail	% CAP Fail, OBD Fail
1996	1,049	37	325	14	73.6%	2.6%	22.8%	1.0%
1997	1,392	37	391	15	75.9%	2.0%	21.3%	0.8%
1998	1,881	68	506	26	75.8%	2.7%	20.4%	1.0%
1999	2,330	79	669	28	75.0%	2.5%	21.5%	0.9%
2000	3,420	97	831	41	77.9%	2.2%	18.9%	0.9%
2001	3,160	101	1,041	32	72.9%	2.3%	24.0%	0.7%
2002	3,811	112	946	47	77.5%	2.3%	19.2%	1.0%
2003	10	-	3	-	76.9%	0.0%	23.1%	0.0%
2004	2	-	-	-	100.0%	0.0%	0.0%	0.0%
2005	-	-	-	-	0.0%	0.0%	0.0%	0.0%
2006	2	-	-	-	100.0%	0.0%	0.0%	0.0%
<b>Totals / Avg:</b>	<b>17,057</b>	<b>531</b>	<b>4,712</b>	<b>203</b>	<b>75.8%</b>	<b>2.4%</b>	<b>20.9%</b>	<b>0.9%</b>

OBD Test and Fuel Cap Pressure Test combinations for 'Light Duty Truck 1' 'Initial Test'								
CY2014								
Vehicle Year	CAP Pass, OBD Pass	CAP Fail, OBD Pass	CAP Pass, OBD Fail	CAP Fail, OBD Fail	% CAP Pass, OBD Pass	% CAP Fail, OBD Pass	% CAP Pass, OBD Fail	% CAP Fail, OBD Fail
1996	306	28	103	18	67.3%	6.2%	22.6%	4.0%
1997	465	19	130	17	73.7%	3.0%	20.6%	2.7%
1998	657	28	154	13	77.1%	3.3%	18.1%	1.5%
1999	745	40	170	11	77.1%	4.1%	17.6%	1.1%
2000	1,019	49	244	8	77.2%	3.7%	18.5%	0.6%
2001	973	33	358	30	69.8%	2.4%	25.7%	2.2%
2002	1,484	49	366	13	77.6%	2.6%	19.1%	0.7%
2003	3	-	1	-	75.0%	0.0%	25.0%	0.0%
2004	3	-	-	-	100.0%	0.0%	0.0%	0.0%
2005	1	-	-	-	100.0%	0.0%	0.0%	0.0%
2006	-	-	-	-	0.0%	0.0%	0.0%	0.0%
2007	-	-	-	-	0.0%	0.0%	0.0%	0.0%
2008	1	-	-	-	100.0%	0.0%	0.0%	0.0%
2014	-	-	1	-	0.0%	0.0%	100.0%	0.0%
<b>Totals / Avg:</b>	<b>5,657</b>	<b>246</b>	<b>1,527</b>	<b>110</b>	<b>75.0%</b>	<b>3.3%</b>	<b>20.3%</b>	<b>1.5%</b>

OBD Test and Fuel Cap Pressure Test combinations for 'Light Duty Truck 2' 'Initial Test'								
CY2014								
Vehicle Year	CAP Pass, OBD Pass	CAP Fail, OBD Pass	CAP Pass, OBD Fail	CAP Fail, OBD Fail	% CAP Pass, OBD Pass	% CAP Fail, OBD Pass	% CAP Pass, OBD Fail	% CAP Fail, OBD Fail
1996	121	6	52	-	67.6%	3.4%	29.1%	0.0%
1997	162	8	62	3	68.9%	3.4%	26.4%	1.3%
1998	219	12	75	7	70.0%	3.8%	24.0%	2.2%
1999	339	27	133	8	66.9%	5.3%	26.2%	1.6%
2000	374	24	100	8	73.9%	4.7%	19.8%	1.6%
2001	345	9	129	4	70.8%	1.8%	26.5%	0.8%
2002	496	16	113	6	78.6%	2.5%	17.9%	1.0%
2003	1	-	2	-	33.3%	0.0%	66.7%	0.0%
<b>Totals / Avg:</b>	<b>2,057</b>	<b>102</b>	<b>666</b>	<b>36</b>	<b>71.9%</b>	<b>3.6%</b>	<b>23.3%</b>	<b>1.3%</b>

OBD Test and Fuel Cap Pressure Test combinations for 'Heavy Duty Vehicle' 'Initial Test' CY2014								
Vehicle Year	CAP Pass, OBD Pass	CAP Fail, OBD Pass	CAP Pass, OBD Fail	CAP Fail, OBD Fail	% CAP Pass, OBD Pass	% CAP Fail, OBD Pass	% CAP Pass, OBD Fail	% CAP Fail, OBD Fail
1996	5	1	1	-	71.4%	14.3%	14.3%	0.0%
1997	9	-	2	-	81.8%	0.0%	18.2%	0.0%
1998	13	3	3	-	68.4%	15.8%	15.8%	0.0%
1999	22	-	6	-	78.6%	0.0%	21.4%	0.0%
2000	49	1	7	-	86.0%	1.8%	12.3%	0.0%
2001	35	-	12	2	71.4%	0.0%	24.5%	4.1%
2002	35	3	16	-	64.8%	5.6%	29.6%	0.0%
2003	-	-	-	-	0.0%	0.0%	0.0%	0.0%
<b>Totals / Avg:</b>	<b>168</b>	<b>8</b>	<b>47</b>	<b>2</b>	<b>74.7%</b>	<b>3.6%</b>	<b>20.9%</b>	<b>0.9%</b>

- 2.10 MIL is commanded on and no codes are stored, MIL is not commanded on and codes are stored, MIL is commanded on and codes are stored (guidance says not to record these), MIL is not commanded on and codes are not stored

CFR 40, Part 51.366 (a)(2)(xix-xxii) Number and % of Vehicles With Various MIL and DTC Combinations by Model Year and Vehicle Type OBD Test Results for 'Light Duty Vehicle' 'Initial Test' CY 2014								
Vehicle Year	MIL ON, DTC's Stored	MIL Off, DTC's Stored	MIL ON, no DTC's Stored	MIL OFF, No DTC's Stored	% MIL ON, DTC's Stored	% MIL OFF, DTC's Stored	% MIL ON, no DTC's Stored	% MIL OFF, No DTC's Stored
1996	191	120	-	1,107	13.5%	8.5%	0.0%	78.1%
1997	304	181	1	1,357	16.5%	9.8%	0.1%	73.6%
1998	394	223	-	1,871	15.8%	9.0%	0.0%	75.2%
1999	468	291	3	2,342	15.1%	9.4%	0.1%	75.5%
2000	581	355	3	3,442	13.3%	8.1%	0.1%	78.6%
2001	570	402	3	3,359	13.2%	9.3%	0.1%	77.5%
2002	515	506	3	3,885	10.5%	10.3%	0.1%	79.1%
2003	541	472	1	5,093	8.9%	7.7%	0.0%	83.4%
2004	406	466	8	5,514	6.3%	7.3%	0.1%	86.2%
2005	388	396	1	5,245	6.4%	6.6%	0.0%	87.0%
2006	314	416	1	6,054	4.6%	6.1%	0.0%	89.2%
2007	230	360	-	6,027	3.5%	5.4%	0.0%	91.1%
2008	166	275	2	6,623	2.3%	3.9%	0.0%	93.7%
2009	87	162	-	5,158	1.6%	3.0%	0.0%	95.4%
2010	58	129	-	6,291	0.9%	2.0%	0.0%	97.1%
2011	32	91	-	5,265	0.6%	1.7%	0.0%	97.7%
2012	19	58	1	3,988	0.5%	1.4%	0.0%	98.1%
2013	7	53	-	3,347	0.2%	1.6%	0.0%	98.2%
2014	1	12	-	1,633	0.1%	0.7%	0.0%	99.2%
2015	-	1	-	133	0.0%	0.7%	0.0%	99.3%
<b>Total / Avg:</b>	<b>5,272</b>	<b>4,969</b>	<b>27</b>	<b>77,734</b>	<b>6.0%</b>	<b>5.6%</b>	<b>0.0%</b>	<b>88.3%</b>

CFR 40, Part 51.366 (a)(2)(xix-xxii) Number and % of Vehicles With Various MIL and DTC Combinations by Model Year and Vehicle Type OBD Test Results for 'Light Duty Truck 1' 'Initial Test' CY 2014								
Vehicle Year	MIL ON, DTC's Stored	MIL Off, DTC's Stored	MIL ON, no DTC's Stored	MIL OFF, No DTC's Stored	% MIL ON, DTC's Stored	% MIL Off, DTC's Stored	% MIL ON, no DTC's Stored	% MIL OFF, No DTC's Stored
1996	86	54	-	317	18.8%	11.8%	0.0%	69.4%
1997	106	67	-	460	16.7%	10.6%	0.0%	72.7%
1998	124	96	-	629	14.6%	11.3%	0.0%	74.1%
1999	119	92	-	760	12.3%	9.5%	0.0%	78.3%
2000	159	140	1	1,021	12.0%	10.6%	0.1%	77.3%
2001	217	114	1	1,062	15.6%	8.2%	0.1%	76.2%
2002	232	200	4	1,478	12.1%	10.4%	0.2%	77.2%
2003	201	194	1	1,456	10.9%	10.5%	0.1%	78.6%
2004	214	224	-	2,058	8.6%	9.0%	0.0%	82.5%
2005	160	183	2	1,983	6.9%	7.9%	0.1%	85.2%
2006	147	216	2	2,247	5.6%	8.3%	0.1%	86.0%
2007	66	141	1	1,875	3.2%	6.8%	0.0%	90.0%
2008	59	79	-	1,936	2.8%	3.8%	0.0%	93.3%
2009	28	41	-	1,153	2.3%	3.4%	0.0%	94.4%
2010	18	43	-	2,292	0.8%	1.8%	0.0%	97.4%
2011	10	35	-	1,703	0.6%	2.0%	0.0%	97.4%
2012	3	13	-	1,030	0.3%	1.2%	0.0%	98.5%
2013	11	20	-	992	1.1%	2.0%	0.0%	97.0%
2014	2	6	-	625	0.3%	0.9%	0.0%	98.7%
2015	-	1	-	83	0.0%	1.2%	0.0%	98.8%
<b>Total / Avg:</b>	<b>1,962</b>	<b>1,959</b>	<b>12</b>	<b>25,160</b>	<b>6.7%</b>	<b>6.7%</b>	<b>0.0%</b>	<b>86.5%</b>

CFR 40, Part 51.366 (a)(2)(xix-xxii)  
Number and % of Vehicles With Various MIL and DTC Combinations  
by Model Year and Vehicle Type  
OBD Test Results for 'Light Duty Truck 2' 'Initial Test'  
CY 2014

Vehicle Year	MIL ON, DTC's Stored	MIL Off, DTC's Stored	MIL ON, no DTC's Stored	MIL OFF, No DTC's Stored	% MIL ON, DTC's Stored	% MIL Off, DTC's Stored	% MIL ON, no DTC's Stored	% MIL OFF, No DTC's Stored
1996	42	24	-	115	23.2%	13.3%	0.0%	63.5%
1997	56	14	-	171	23.2%	5.8%	0.0%	71.0%
1998	65	38	-	207	21.0%	12.3%	0.0%	66.8%
1999	103	55	-	350	20.3%	10.8%	0.0%	68.9%
2000	73	56	-	373	14.5%	11.2%	0.0%	74.3%
2001	74	57	-	359	15.1%	11.6%	0.0%	73.3%
2002	64	67	1	495	10.2%	10.7%	0.2%	78.9%
2003	98	66	1	591	13.0%	8.7%	0.1%	78.2%
2004	81	94	-	860	7.8%	9.1%	0.0%	83.1%
2005	56	50	1	653	7.4%	6.6%	0.1%	85.9%
2006	62	87	-	810	6.5%	9.1%	0.0%	84.5%
2007	52	64	-	749	6.0%	7.4%	0.0%	86.6%
2008	42	67	-	1,040	3.7%	5.8%	0.0%	90.5%
2009	17	32	-	454	3.4%	6.4%	0.0%	90.3%
2010	5	39	-	887	0.5%	4.2%	0.0%	95.3%
2011	9	23	-	752	1.1%	2.9%	0.0%	95.9%
2012	4	15	-	506	0.8%	2.9%	0.0%	96.4%
2013	4	6	-	589	0.7%	1.0%	0.0%	98.3%
2014	1	1	-	261	0.4%	0.4%	0.0%	99.2%
2015	-	-	-	30	0.0%	0.0%	0.0%	100.0%
<b>Total / Avg:</b>	<b>908</b>	<b>855</b>	<b>3</b>	<b>10,252</b>	<b>7.6%</b>	<b>7.1%</b>	<b>0.0%</b>	<b>85.3%</b>

CFR 40, Part 51.366 (a)(2)(xix-xxii) Number and % of Vehicles With Various MIL and DTC Combinations by Model Year and Vehicle Type OBD Test Results for 'Heavy Duty Vehicle' 'Initial Test' CY 2014								
Vehicle Year	MIL ON, DTC's Stored	MIL Off, DTC's Stored	MIL ON, no DTC's Stored	MIL OFF, No DTC's Stored	% MIL ON, DTC's Stored	% MIL Off, DTC's Stored	% MIL ON, no DTC's Stored	% MIL OFF, No DTC's Stored
1996	1	2	-	4	14.3%	28.6%	0.0%	57.1%
1997	2	1	-	9	16.7%	8.3%	0.0%	75.0%
1998	1	1	-	17	5.3%	5.3%	0.0%	89.5%
1999	5	3	-	21	17.2%	10.3%	0.0%	72.4%
2000	4	6	-	50	6.7%	10.0%	0.0%	83.3%
2001	-	11	-	38	0.0%	22.4%	0.0%	77.6%
2002	7	6	-	41	13.0%	11.1%	0.0%	75.9%
2003	3	4	-	50	5.3%	7.0%	0.0%	87.7%
2004	3	6	-	59	4.4%	8.8%	0.0%	86.8%
2005	2	2	-	51	3.6%	3.6%	0.0%	92.7%
2006	7	9	-	67	8.4%	10.8%	0.0%	80.7%
2007	5	3	-	53	8.2%	4.9%	0.0%	86.9%
2008	1	2	-	43	2.2%	4.3%	0.0%	93.5%
2009	4	4	-	49	7.0%	7.0%	0.0%	86.0%
2010	5	6	-	93	4.8%	5.8%	0.0%	89.4%
2011	1	2	-	80	1.2%	2.4%	0.0%	96.4%
2012	-	1	-	52	0.0%	1.9%	0.0%	98.1%
2013	-	-	-	37	0.0%	0.0%	0.0%	100.0%
2014	-	-	-	21	0.0%	0.0%	0.0%	100.0%
2015	-	-	-	4	0.0%	0.0%	0.0%	100.0%
<b>Total / Avg:</b>	<b>51</b>	<b>69</b>	<b>-</b>	<b>839</b>	<b>5.3%</b>	<b>7.2%</b>	<b>0.0%</b>	<b>87.5%</b>

2.11 Readiness status indicates that the evaluation is not complete for any module supported by on-board diagnostic systems

The results for this are provided in the tables on OBDII data above.

## 2.12 The initial test volume by model year and test station

Initial Test Volume by Model Year CY 2014					
Vehicle Year	# LDV's	# LDT1's	# LDT2's	# HDV's	Total Emissions Tests
1943	-	-	-	2	2
1944	-	-	-	1	1
1945	-	-	-	4	4
1968	18	-	-	-	18
1969	11	-	-	-	11
1970	17	-	-	-	17
1971	19	-	-	-	19
1972	24	-	-	1	25
1973	34	-	-	-	34
1974	20	-	-	2	22
1975	19	-	-	-	19
1976	19	-	-	1	20
1977	20	-	-	1	21
1978	40	-	-	2	42
1979	38	-	-	1	39
1980	21	-	-	3	24
1981	11	4	-	1	16
1982	13	6	1	-	20
1983	35	8	5	1	49
1984	58	11	5	7	81
1985	63	21	4	6	94
1986	106	32	9	9	156
1987	145	27	12	9	193
1988	187	46	22	13	268
1989	218	55	25	17	315
1990	332	52	32	17	433
1991	402	78	30	19	529
1992	506	78	41	19	644
1993	638	130	64	32	864
1994	936	212	138	51	1,337
1995	1,242	319	174	54	1,789
1996	1,435	460	187	55	2,137
1997	1,855	636	247	100	2,838
1998	2,502	855	320	94	3,771
1999	3,134	976	517	132	4,759
2000	4,412	1,331	516	196	6,455
2001	4,361	1,402	503	214	6,480
2002	4,938	1,930	646	233	7,747
2003	6,130	1,862	774	212	8,978
2004	6,423	2,525	1,048	259	10,255
2005	6,056	2,359	771	216	9,402
2006	6,814	2,628	983	362	10,787
2007	6,642	2,099	885	262	9,888
2008	7,097	2,085	1,172	259	10,613
2009	5,425	1,230	518	252	7,425
2010	6,497	2,360	948	392	10,197
2011	5,396	1,754	801	554	8,505
2012	4,081	1,051	555	812	6,499
2013	3,422	1,031	629	659	5,741
2014	1,649	646	267	283	2,845
2015	134	88	31	19	272
<b>Total / Avg:</b>	<b>93,595</b>	<b>30,387</b>	<b>12,880</b>	<b>5,838</b>	<b>142,700</b>

## 2.13 The initial test failure rate by model year and test station

Initial Test Failure Rate by Model Year and Test Type CY 2014											
Vehicle Year	IM240 Fail	IDLE Fail	OBD Fail	CAP Fail	CAT Fail	% IM240 Fail	% IDLE Fail	% OBD Fail	% CAP Fail	% CAT Fail	Fail Tests Total
1943	0	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%	-
1944	0	-	-	-	-	0.0%	0.0%	0.0%	0.0%	0.0%	-
1945	0	1	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	1
1968	0	5	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	5
1969	0	2	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	2
1970	0	7	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	7
1971	0	2	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	2
1972	0	4	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	4
1973	0	3	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	3
1974	0	3	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	3
1975	0	7	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	7
1976	0	6	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	6
1977	0	4	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	4
1978	0	9	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	9
1979	0	4	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	4
1980	0	7	-	2	-	0.0%	77.8%	0.0%	22.2%	0.0%	9
1981	0	5	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	5
1982	0	2	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	2
1983	0	20	-	-	-	0.0%	100.0%	0.0%	0.0%	0.0%	20
1984	25	8	-	3	-	69.4%	22.2%	0.0%	8.3%	0.0%	33
1985	25	6	-	8	-	64.1%	15.4%	0.0%	20.5%	0.0%	36
1986	40	12	-	13	-	61.5%	18.5%	0.0%	20.0%	0.0%	57
1987	41	11	-	12	-	64.1%	17.2%	0.0%	18.8%	0.0%	58
1988	60	16	-	16	-	65.2%	17.4%	0.0%	17.4%	0.0%	84
1989	57	10	-	18	-	67.1%	11.8%	0.0%	21.2%	0.0%	80
1990	67	32	-	15	-	58.8%	28.1%	0.0%	13.2%	0.0%	108
1991	111	24	-	25	-	69.4%	15.0%	0.0%	15.6%	0.0%	152
1992	134	46	-	35	-	62.3%	21.4%	0.0%	16.3%	0.0%	204
1993	150	50	-	33	-	64.4%	21.5%	0.0%	14.2%	0.0%	224
1994	174	58	-	58	-	60.0%	20.0%	0.0%	20.0%	0.0%	277
1995	205	89	-	76	-	55.4%	24.1%	0.0%	20.5%	0.0%	352
1996	0	10	519	121	-	0.0%	1.5%	79.8%	18.6%	0.0%	611
1997	0	12	628	132	2	0.0%	1.6%	81.1%	17.1%	0.3%	728
1998	0	6	793	175	-	0.0%	0.6%	81.4%	18.0%	0.0%	919
1999	0	4	1,040	231	-	0.0%	0.3%	81.6%	18.1%	0.0%	1,213
2000	0	5	1,252	264	-	0.0%	0.3%	82.3%	17.4%	0.0%	1,451
2001	0	8	1,626	259	1	0.0%	0.4%	85.9%	13.7%	0.1%	1,807
2002	0	9	1,519	278	-	0.0%	0.5%	84.1%	15.4%	0.0%	1,729
2003	0	1	1,577	1	-	0.0%	0.1%	99.9%	0.1%	0.0%	1,579
2004	0	5	1,347	-	1	0.0%	0.4%	99.6%	0.0%	0.1%	1,353
2005	0	2	1,254	-	-	0.0%	0.2%	99.8%	0.0%	0.0%	1,256
2006	0	4	1,023	-	-	0.0%	0.4%	99.6%	0.0%	0.0%	1,027
2007	0	-	722	-	1	0.0%	0.0%	99.9%	0.0%	0.1%	723
2008	0	-	654	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	654
2009	0	2	405	-	-	0.0%	0.5%	99.5%	0.0%	0.0%	407
2010	0	1	370	-	-	0.0%	0.3%	99.7%	0.0%	0.0%	371
2011	0	1	260	-	-	0.0%	0.4%	99.6%	0.0%	0.0%	261
2012	0	1	161	-	-	0.0%	0.6%	99.4%	0.0%	0.0%	162
2013	0	5	137	-	1	0.0%	3.5%	95.8%	0.0%	0.7%	143
2014	0	2	38	-	-	0.0%	5.0%	95.0%	0.0%	0.0%	40
2015	0	-	1	-	-	0.0%	0.0%	100.0%	0.0%	0.0%	1
<b>Total / Avg:</b>	<b>1089</b>	<b>531</b>	<b>15326</b>	<b>1775</b>	<b>6</b>	<b>5.8%</b>	<b>2.8%</b>	<b>81.8%</b>	<b>9.5%</b>	<b>0.0%</b>	<b>18,193</b>

2.14 **The average increase or decrease in tailpipe emission levels for HC, CO, and NO<sub>x</sub> after repairs by model year and vehicle type for vehicles receiving a mass emissions test**

1984 to 1995 model year vehicles under 8,500 pounds GVWR receive an IM240 test in DC. Data from all IM240 tests were analyzed to determine average emissions reductions, by vehicle model year and vehicle type. Because DC exercises fast pass and Phase 2 IM240 standards, the results for many of the tests were from differing portions and durations of the IM240. In order to ensure comparison over similar parts of the test cycle, only full duration tests or tests based on Phase 1 fast pass (adjusted to full duration) were used in this analysis. Based on these criteria, a total of 897 (as compared to 1,521 last year) matched initial and final tests were used in this analysis (a 41% reduction in available data from last year).

Overall, the IM240 tests resulted in average emissions reductions of 0.68 gram per mile for HC, 10.33 gram per mile for CO and 0.43 gram per mile for NO<sub>x</sub>. These are compared to reductions of 0.33 gram per mile for HC, 8.23 gram per mile for CO and 0.68 gram per mile for NO<sub>x</sub> last year. Below are shown the results by vehicle model year. Note that there is no specific trend in the reduction levels by year.

Average Emissions Reduction by Model Year			
MY	HC	CO	NO <sub>x</sub>
1984	0.08	10.63	-0.28
1985	-0.05	11.63	0.52
1986	0.36	-1.08	0.37
1987	-0.75	13.10	0.38
1988	1.07	13.92	0.62
1989	0.51	11.35	0.46
1990	1.42	14.84	0.54
1991	0.50	7.63	0.48
1992	0.38	10.51	0.51
1993	0.82	13.16	0.31
1994	0.75	7.28	0.40
1995	0.86	9.70	0.46
Average	0.68	10.33	0.43

### **3 QUALITY ASSURANCE REPORT**

#### **3.1 The number of inspection stations and lanes:**

##### **3.1.1 Operating throughout the year**

As noted in the introduction, The District operated a single eight-lane test facility in 2014. Each lane was equipped with OBDII and two speed idle emissions test equipment as well as gas cap tests. Three of the eight lanes also include IM240 test systems and five were equipped with dual OBDII testing positions. The equipment was designed, installed and is serviced under contract by Envirotest. Envirotest staff is on-site to perform regular calibrations, technical support and to perform preventative maintenance. Envirotest staff are also on call with a four hour response time in the case that a lane were to stop functioning and the DMV technical staff could not repair the equipment. A supply of spares which are full change out portions of the test systems (whole bench "trays" etc.) are retained on site. DMV staff is trained on servicing the equipment and diagnosing common problems.

##### **3.1.2 Operating for only part of the year**

As noted above, the test equipment receives weekly preventative maintenance by Envirotest service technicians. For this reason there was no significant loss of lane operation time due to mechanical failures. All eight lanes are available on a daily basis; however some are not operated when test volumes are low such as during the middle of the week or in the afternoons.

### 3.1.3 Receiving overt performance audits in the year

73 overt performance audits were performed observing the testing staff.

Monthly Inspector Audit Check List 2014													
ID Number	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
108			1		1			1	1				4
110	1	1	1						1				4
496					1		1					1	3
881						1					1		2
1122					1			1					2
1211	1						1			1			3
1336					1					1			2
1445	1	1					1		1				4
2147				1			1						2
2211	1		1							1			3
2315						1		1			1		3
2366					1				1				2
2555		1		1				1			1		4
4184										1	1	1	3
4784		1				1							2
5629			1				1						2
5885		1		1			1					1	4
5956		1		1				1		1	1		5
6121			1	1		1			1				4
6268		1		1						1			3
7001	1					1						1	3
7468		1						1					2
7866	1					1						1	3
8559											1	1	2
8899	1								1				2
<b>Totals</b>	<b>7</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>73</b>

#### 3.1.4 **Not receiving overt performance audits in the year**

During 2014, all lanes received an overt audit on a monthly basis.

#### 3.1.5 **Receiving covert performance audits in the year**

40 CFR Part 51.363(a)(4) requires covert performance audits of inspector performance. This includes remote observation and use of covert vehicle set to fail. Because the District has only a single inspection station, it is not possible to prepare vehicles set to fail vehicles which are pre-tested to be used for covert audits of the inspection station. The regulations requiring covert audits using vehicles set to fail was developed prior to On-Board Diagnostic (electronic) testing of vehicles.

Recently EPA noted that a jurisdiction can use leeway provided in 40 CFR 51.364(e) to gain approval from EPA if alternative auditing techniques are used and are substantively equivalent to the techniques which US EPA suggests:

§ 51.364 (e) Alternative quality assurance procedures or frequencies that achieve equivalent or better results may be approved by the Administrator. Statistical process control shall be used whenever possible to demonstrate the efficacy of alternatives.

The District now uses the electronic fingerprint data from vehicles and remote, recorded video observation of the inspections to prevent and identify fraudulent inspections. As noted, DDOE does not have the facilities to prepare and pre-test covert vehicles. Instead, DDOE works with DMV's Integrity Office to ensure inspections are valid using a set of data triggers developed with the assistance of outside consultants (Revecorp). DDOE and DMV also perform remote visual inspections (as required by 51.363(a)(4)(i) via a very complete video monitoring system which covers all aspects of the inspection process including the queue areas and the areas where inspection reports are presented to motorist while the inspection stickers are applied to the vehicles. DDOE also performs triggers analysis on the data to look for patterns which indicate fraud, and then go back into the video archive and identify if there could have been fraud in the inspection lane.

DDOE believes these combined techniques are substantially effective as the use of covert set to fail vehicles. Therefore, as per 40 CFR Part 51.364(e) DDOE requests that US EPA Region 3 allow these techniques in lieu of the set to fail covert vehicles.

#### 3.1.6 **Not receiving covert performance audits in the year**

None of the eight lanes at the inspection station received a traditional covert audit this year. However, as noted above they are continuously monitored via inspection station management staff, with a video monitoring system by the Office of Integrity and by the use of data triggers. Please see item 3.1.5 above.

#### 3.1.7 **That have been shut down as a result of overt performance audits**

If a lane is closed for failing an overt audit, it was immediately repaired and put back into operation; therefore no lanes were closed for an extended period of time (longer than a work day) due to failing an audit.

#### 3.1.8 **The number of covert audits:**

##### **Conducted with the vehicle set to fail per test type**

No covert audits with vehicles were performed in the District. However, as noted above, continuous surveillance using the extensive video monitoring system recently installed at the facility but DMV's Office of Integrity, combined with the requirement for automatic need for a manager override for any suspicious procedures (change in fuel such as from

gasoline to diesel, etc.) and extensive triggers being performed on the data are the equivalent of continuous auditing. Also, please see item 3.1.5 above.

**Conducted with the vehicle set to fail any combination of two or more test types**

Please see item 3.1.5 above.

**Resulting in a false pass per test type**

Please see item 3.1.5 above.

**Resulting in a false pass for any combination of two or more test types**

Please see item 3.1.5 above.

**The number of inspectors and stations:**

**Suspended, fired, or otherwise prohibited from testing as a result of covert audits**

Based on The District's alternate covert audit procedures (supervisor override requirements, video monitoring and triggers), no staff were either suspended or reprimanded for improper practices. Also, please see item 3.1.5 above.

**Suspended, fired, or otherwise prohibited from testing for other causes**

No staff was fired for personnel issues during the year.

**That received fines**

No inspectors received fine for any reason as the employees are DC government employees and the government does not use fines as modifiers of employee behavior.

**3.1.9 The number of inspectors licensed or certified to conduct testing**

The District operates the test station with 25 inspectors, four team chiefs, two equipment technicians, two assistant managers and one general manager (all certified as inspectors). Generally, the lanes are operated with teams of two inspectors each and one team chief per two lanes. The three supervisors (a manager and two supervisors), and two technicians who maintain the lane test equipment and perform periodic calibrations also perform inspections from time to time. There are also two customer service coordinators who do not perform inspections (although they are also certified inspectors) and two general laborers who maintain the grounds and direct traffic as necessary

**3.1.10 The number of hearings:**

**Held to consider adverse actions against inspectors and stations**

DMV does not hold hearing; therefore no inspectors had hearings for actions while testing. However, inspectors were written up resulting in suspensions as noted below.

**Resulting in adverse actions against inspectors and stations (as a result of being written up)**

A total of 6 inspectors were suspended for their actions while testing.

**The total amount collected in fines from inspectors and stations by type of violation**

No DMV staff was fined, therefore no fines were collected.

**The total number of covert vehicles available for undercover audits over the year**

The District does not have any vehicles available for performing covert audits.

**The number of covert auditors available for undercover audits.**

DDOE does not have any covert auditors for undercover audits in the test lanes. Since the program is small with only one testing facility, it is difficult to have dedicated covert auditors and to ensure that the DDOE auditors are non-recognizable to the test station staff. Please see item 3.1.5 above.

During the year, DMV used a video surveillance system to allow for continuous monitoring of the inspection lanes. DDOE staff members have remote access for the surveillance camera system and it is working as an effective tool for conducting covert audits. DDOE state auditors performed covert audits via video surveillance system and data review and did not come across any fraudulent activity in the inspection lanes during the reporting period.

## 4 QUALITY CONTROL REPORT

### 4.1 The number of emission testing sites and lanes in use in the program

DMV operates a single eight-lane test facility located at 1001 Half Street SW, Washington DC. The facility operates 40 hours per week, 7:00 am to 3:00 pm, Tuesday through Saturday in the winter and 6:00 am to 2:00 pm in the summer.

All lanes are equipped with OBDII and BAR90 style idle test systems. Three lanes are also equipped with IM240 inspection equipment and the other five lanes have dual OBDII test positions. The IM240 lanes operate as three position lanes with data entry and visual inspection at Position 1, emissions and fuel cap inspection at Position 2 and vehicle inspection report and sticker printing at Position 3. In the dual OBDII lanes, the OBDII test or idle test can be performed entirely at Position 1, the OBDII test can be performed at Position 2 and the vehicle inspection report and sticker printing is at Position 3. Customer service representatives (Team Chiefs) work between each pair of lanes to answer motorist's questions and provide appropriate literature to motorists at the end of the inspection including a "What to do if your vehicle fails" brochure which is translated into several languages. Additional assistance is available in the office.

### 4.2 The number of equipment audits by station and lane

In the year, 124 gas audits were performed with an average failure rate of 22.6% which is a great improvement over last year's failure rate of 31.5%. When a lane failed, it was immediately shut down, repaired and re-audited. Lanes were not allowed back into operation until they passed an audit.

Equipment Audits and Failure Rates 2014			
Month	# Audits	Pass	Fail
January	10	6	4
February	10	10	0
March	10	7	3
April	10	8	2
May	10	7	3
June	11	9	2
July	10	8	2
August	9	8	1
September	11	10	1
October	11	8	3
November	11	6	5
December	11	9	2
Totals	124	96	28
Failure Rate			22.6%

4.3 **The number and percentage of stations that have failed equipment audits**

DC operates a single eight lane test station. The entire test station was never shut down for an overall audit failure of the station.

4.4 **Number and percentage of stations and lanes shut down as a result of equipment audits**

See above. There were a total of 28 audit failures of lanes which resulted in their being shut down for some period of time.

## 5 ENFORCEMENT REPORT

### 5.1 An estimate of the number of vehicles subject to the inspection program, including the results of an analysis of the registration data base.

The registration analysis began with the 329,738 vehicles in Destiny as of December 31, 2014. Duplicate records were removed, keeping the newest record for each vehicle. Vehicles which were marked as codes CAN, EXP, INA, PEN or SUS were removed and only vehicles which were expired for two months or less or currently registered were still considered as being actively registered. Vehicles too heavy to receive emissions inspections, vehicles with fuel types which do not receive an emissions inspection, and vehicles which were within 4 years old (which are excluded from inspection requirements) were removed. The remaining 230,354 vehicles which are subject to inspection and actively registered were analyzed.

#### 2014 Registration Data Analysis

DC Registration Information				
Veiuhcle Type	Number	Fleet Fraction	Compliant	Compliance Rate
Private Vehicles	211151	91.7%	195619	92.6%
Truck	2515	1.1%	2108	83.8%
Federal	1632	0.7%	2	0.1%
For Hire	5806	2.5%	5331	91.8%
Government	9250	4.0%	2924	31.6%
Grand Total	230354		205984	89.4%

As can be seen in the table, 205,984 vehicles which had valid registrations had test data in the database and were found to be compliant.

### 5.2 The percentage of motorist compliance based upon a comparison of the number of valid final tests with the number of subject vehicles

Data from the registration analysis above including previous emissions test data to determine the program compliance. The analysis is shown in the table above and a 89.4% compliance was found. This is much lower than the analysis from last year indicated (included below). It appears Federal vehicles are not complying with obtaining inspections in the program and local government vehicles have a very low compliance rate.

#### 2013 Registration Data Analysis

DC Registration Information				
Veiuhcle Type	Number	Fleet Fraction	Compliant	Compliance Rate
Private Vehicles	214589	94.4%	208195	97.0%
Truck	1524	0.7%	1499	98.4%
Federal	523	0.2%	490	93.7%
For Hire	6820	3.0%	6313	92.6%
Government	3798	1.7%	3530	92.9%
Grand Total	227254		220027	96.8%

**5.3 The total number of compliance documents issued to inspection stations**

DC's vehicle inspection program is a centralized program operated by the DMV employees. Blank sticker stock is not "issued" to the inspection station. DMV management staff store the blank stickers in a locked office with limited access. Also, there is video surveillance of this office so that anyone obtaining the stickers is recorded. Blank stickers are given by a supervisor to a service technician in the office and installed in the sticker printers (there are separate printers for passing and failing stickers) in each of the eight test lanes. Stickers are only printed in the test lanes for completed tests.

**5.4 The number of missing compliance documents [(d)(4)(i)]**

DC's vehicle inspection program is a centralized program operated by DMV employees. As such, no specific sticker tracking is performed at the station. Printing on the stickers is via a special thermal printing with a fold over design which causes the printing to be on the surface stuck to the windshield of vehicle. In addition, the vehicle VIN and a bar code containing the vehicle information are included on the face of the sticker for easy auditing (and are used for retests). Common printers could not easily duplicate these stickers. Because of the security on the blank sticker stock and the difficulty to reproduce the stickers, there is little concern about misuse of stickers.

**5.5 The number of time extensions and other exemptions granted to motorists**

The rate at which initially failed vehicles were granted a waiver was 4.3% during the year (991 waivers out of 22,817 initial test failures).

**5.6 The number of compliance surveys conducted, number of vehicles surveyed per survey, and the compliance rates found:**

**5.6.1 Remote sensing study**

DDOE contracted with Envirotech to carry out road-side Remote Sensing Device (RSD) sampling of in-use vehicle tailpipe emissions and we believe the results are still valid. Envirotech conducted the study in 2011 and summarized the findings in a report titled "District of Columbia Remote Sensing Survey." The study report is presented as Appendix A to this document.

The conclusions from the remote sensing study where:  
Over 7,000 DC registered vehicles were measured on road.

1. DC registered average light vehicle emissions were 0.12% CO, 17 ppm HC and 150 ppm NO.
2. Emissions of HC, CO and NO were 62%, 73% and 52% lower respectively than when measured in 2002.
3. Taxis are older than the average fleet which. Even when adjusted for the difference in age, taxis have higher emissions than other light vehicles of the same age.

**5.6.2 Parking lot surveys**

In addition to the Remote Sensing Study, DDOE also conducted parking lot surveys to evaluate the motorist compliance with the DC I/M program testing frequency. Over the course of the year, surveys were conducted at various parking lots in the District. Survey data collected at each location is summarized in the table below.

Based on the sample collected this year, the compliance rate was 97.8% for vehicles registered in the District. DDOE will continue the parking lot surveys and gather additional data to evaluate any compliance issues.

<b>Survey Date</b>	<b>Location</b>	<b>Sample Size</b>	<b>Fail</b>	<b>Compliance</b>
February 14, 2014	Union Station N.W.	182	3	98.4%
March 14, 2014	Ft McNair S.W.	185	4	97.8%
April 14, 2014	Cosco (South Dakota) N.E.	167	2	98.8%
May 14, 2015	National Parks Area S.W.	145	3	97.9%
June 14, 2014	Alabama Avenue S.E.	295	4	98.6%
July 14, 2014	Ga.Ave at Irving Street N.W.	314	7	97.8%
August 14, 2014	Home Depot-Giant) N.E.	145	5	96.6%
September 14, 2014	Ft McNair S.E.	79	1	98.7%
October 14, 2014	National Parks Area S.W.	95	4	95.8%
November 14, 2014	Union Station N.W.	108	3	97.2%
December 14, 2014	Cosco (South Dakota) N.E.	85	3	96.5%
	<b>Survey Totals</b>	<b>1800</b>	<b>39</b>	<b>97.8%</b>

## **6 ADDITIONAL REPORTING REQUIREMENTS TO ADDRESS BIENNIAL PROGRAM CHANGES ISSUES**

### **6.1 Any changes made in program design, funding, personnel levels, procedures, regulations, and legal authority with detailed discussion and evaluation of the impact on the program of all such changes.**

No significant changes to the test procedures and regulations of legal authority for the program were made in the year. In the recent years, the vehicle pool for the IM240 test protocol is rapidly decreasing. District will evaluate the cost effectiveness of maintaining the IM240 test protocol in the I/M program.

The City Council passed a regulation changing the inspection frequency for Taxis from twice a year (once each six months) to once a year. This was not implemented in 2014 but expected to be implemented in late 2015.

DMV added two investigators to the Integrity Office who are partially tasked with evaluating triggers data on the performance of the inspection data and reviewing surveillance video. They were trained by Revecorp on the use of the data system and how to interpret the triggers data. In addition, DDOE increased their efforts to review the triggers data adding to the strength of these.

### **6.2 Any weakness or problems identified in the program within the two year reporting period, what steps have already been taken to correct those problems, the results of those steps and future efforts planned.**

During 2014, DDOE and DMV continued to use a video surveillance system to allow for continuous monitoring of the inspection lanes to assist in fraud prevention. The surveillance system is an effective tool for conducting covert audits. DMV's Office of Integrity and DDOE auditors have been using the system, along with random audits, to perform a function similar to and in lieu of covert audits.

The District currently does not have a synchronized I/M and vehicle registration process and the due dates generally differ for vehicle inspection and registration renewal. However, the motorists do not have to pay the inspection fees at the time of inspection but only when the vehicle registration is renewed. DMV continues to consider the benefits of synchronization of the dates.

## Appendix A

### District of Columbia Remote Sensing Survey

## **District of Columbia 2011 Remote Sensing Survey**

Prepared for:

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# Glossary of Terms and Abbreviations

ADT	Average Daily Traffic
ASM	Acceleration Simulation Mode
Basic I/M	A set of vehicle I/M program inspection requirements defined by the U.S. EPA that may be used in areas not required to implement an Enhanced I/M program; the inspection procedure usually involves idle testing
Clean Screening	The process of identifying vehicles with low emissions that are then exempt from emission inspection at an inspection station
CO	Carbon monoxide
CO <sub>2</sub>	Carbon dioxide
Cutpoint	An emissions level used to classify vehicles as having met an emissions inspection requirement
DDOE	District Department of the Environment
DC DMV	District of Columbia Department of Motor Vehicles
Enhanced I/M	A set of more rigorous vehicle I/M program inspection requirements defined by the U.S. EPA that usually involves IM240 testing
EPA	United States Environmental Protection Agency
Excess Emissions	Vehicle emissions that exceed an I/M cutpoint
FTP	Federal Test Procedure
g/mi	Grams per mile, the units of measurement for FTP and IM240 tests
GIT	Georgia Institute of Technology
GVWR	Gross Vehicle Weight Rating
HC	Hydrocarbons
High Emitter Identification	The on-road identification of vehicles with high emission levels
I/M	Inspection and maintenance program
Idle Test	A tailpipe emission test conducted when the vehicle is idling and the transmission is not engaged
IM240 Test	A loaded-mode transient tailpipe emission test conducted when the vehicle is driven for up to 240 seconds on a dynamometer, following a specific speed trace that simulates real world driving conditions
KW/t	Kilowatts per metric ton, the units of measurement for vehicle specific power

LDGV	Light-duty Gasoline-powered Vehicle
LDGT	Light-duty Gasoline-powered Truck
NO <sub>x</sub>	Oxides of nitrogen, usually measured as nitric oxide (NO)
OBDII	On board diagnostic system to detect emissions related problems that is required on all 1996 and newer light-duty vehicles
Repairable Emissions	The emission reductions that can be obtained by repairing a vehicle. The amount of repairable emissions is equal to or greater than the amount of excess emissions
RSD	Remote Sensing Device
VIN	Vehicle Identification Number
VDR	Vehicle On-road Record
VMT	Vehicle Miles Traveled
VSP	Vehicle Specific Power; estimated engine power divided by the mass of the vehicle
VTR	Vehicle Test Record

## 1. Introduction

The 1990 Federal Clean Air Act Amendments require that I/M Programs be implemented in urbanized areas exceeding the National Ambient Air Quality Standards for ozone and/or carbon monoxide (CO). The Federal Clean Air Act requires implementation of an enhanced I/M Program in the census-defined Washington DC Metropolitan Statistical Area (MSA). This includes the District of Columbia (DC), and neighboring counties in Maryland and Virginia.

The District of Columbia Department of Motor Vehicles (DC DMV) currently operates a centralized enhanced I/M Program. The District Department of the Environment (DDOE) provides the regulatory oversight and EPA reporting for the DC's I/M Program. All gasoline fueled vehicles less than 25 years old and up to 10,000 pounds gross vehicle weight rating (GVWR) are required to pass an emissions test or receive a waiver biennially before their motor vehicle license plates can be renewed. Currently, vehicles of model year 1984 and newer, and up to 8,500 lbs. GVWR are required to receive an IM240 test if they are able to be tested on a single axle dynamometer. Other vehicles receive an idle test. In addition, all vehicles must pass a gas cap pressure test, a visual inspection of applicable emissions control equipment components, and a pre- and post-inspection check for visible emissions.

The Clean Air Act Amendments of 1990 require Enhanced I/M program areas to supplement emissions testing at stations with an on-road/remote sensing element. The DDOE contracted Envirotest Systems Corp (Envirotest) to conduct a remote sensing device (RSD 0.5%) survey to meet this requirement.

**CONCLUSIONS** – This document describes the study and its results. Following are the key conclusions drawn from this analysis:

- Over 7,000 DC registered vehicles were measured on-road at the sites in northern Virginia.
- DC registered average light vehicle emissions were 0.12% CO, 17 ppm HC and 150 ppm NO.
- Emissions of CO, HC and NO were 62%, 73% and 52% lower respectively in 2011 than in 2002.
- Taxis have higher emissions than other light vehicles. They were older than average and had higher HC and NOx emissions than other vehicles of the same age.

The following section describes the study design. The analysis of data collected is presented in Section 3.0.

## 2. STUDY DESIGN

Section 51.371 of the Code of Federal Regulation (CFR) covering Enhanced I/M programs defines on-road testing as the measurement of HC, CO, NO<sub>x</sub> and/or CO<sub>2</sub> emissions on any road or roadside in the non-attainment area or the I/M program area. On road testing is required in enhanced I/M areas and is an option for basic I/M areas.

The general requirements specified in CFR 51.371 are:

- (1) On-road testing is to be part of the emission testing system, but is to be a complement to testing otherwise required.
- (2) On-road testing is not required in every season or on every vehicle but shall evaluate the emission performance of 0.5% of the subject fleet, including any vehicles that may be subject to the follow-up inspection provisions of paragraph 4 (below), each inspection cycle.
- (3) The on-road testing program shall provide information about the emission performance of in-use vehicles by measuring on-road emissions through the use of remote sensing devices or roadside pullovers including tailpipe emission testing. The program shall collect, analyze and report on-road sensing data.
- (4) Owners of vehicles that have previously been through the normal periodic inspection and passed final retest and found to be high emitters shall be notified that the vehicles are required to pass and out-of-cycle follow-up inspection; notification may be by mailing in the case of remote sensing on-road testing or through immediate notification if roadside pullovers are used.

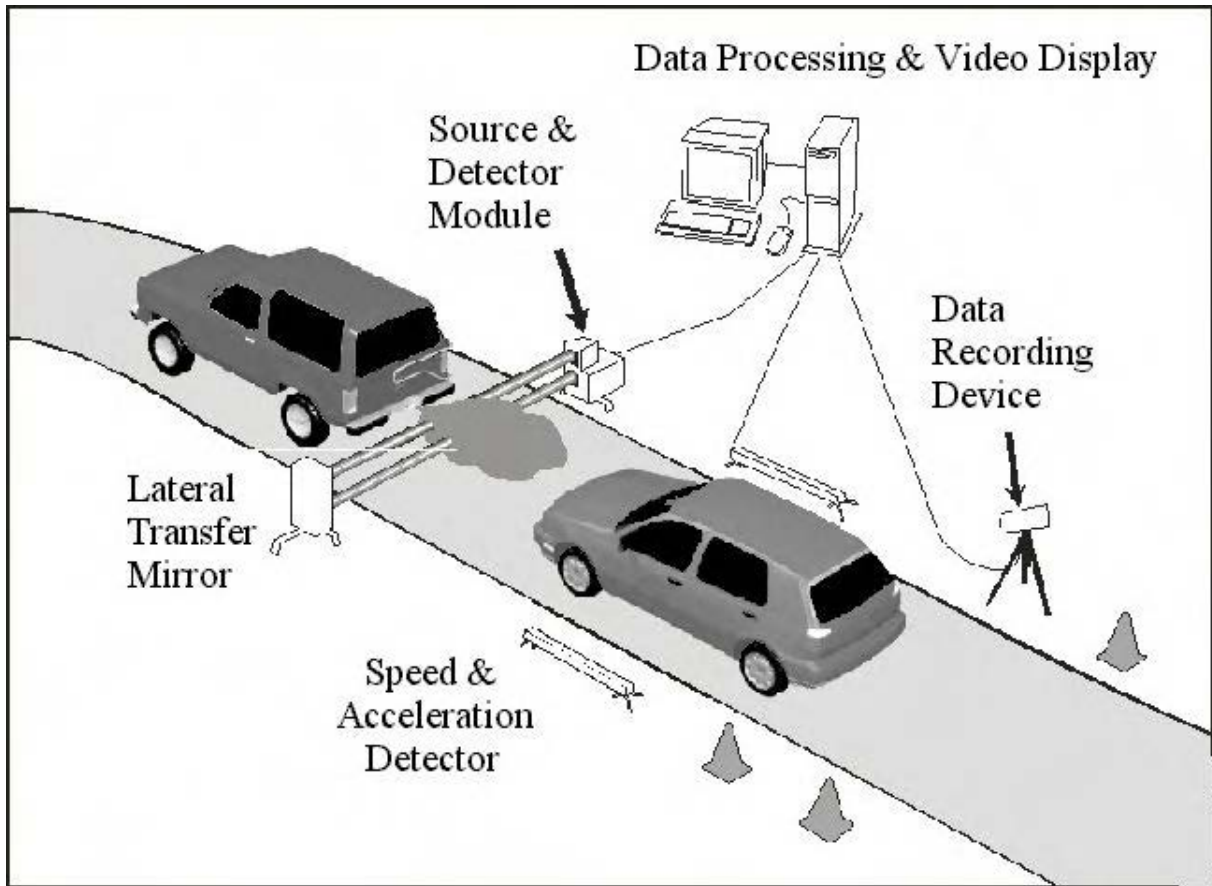
Following sections describe how these requirements have been fulfilled.

### 2.2. **Equipment Description**

The DC survey utilized Envirotec's on-road remote sensing system, the RSD4600. The RSD4600 is based on the same underlying technology as the predecessor RSD3000 but has completely re-engineered electronics to improve sensitivity. It is a more durable, easily operable, deployable and portable system that significantly improves operator and program effectiveness through greater capture rates of more accurate vehicle emissions readings.

The RSD4600 detects vehicle emissions when a car drives through an invisible light beam the system projects across a roadway. Figure 2-1 illustrates the remote sensing equipment set-up. The process of measuring emissions remotely begins when the RSD4600 Source & Detector Module (SDM) sends an infrared (IR) and ultraviolet (UV) light beam across a single lane of road to a lateral transfer mirror. The mirror reflects the beam back across the street (creating a dual beam path) into a series of detectors in the SDM.

**Figure 2-1 On-Road Remote Sensing Set-Up**



Fuel specific concentrations of HC, CO, CO<sub>2</sub>, NO<sub>x</sub> and smoke are measured in vehicle exhaust plumes based on their absorption of IR/UV light in the dual beam path. During this process, the data-recording device captures an image of the rear of the vehicle, while the Speed & Acceleration Detector measures the speed of each vehicle.

The RSD units are housed in fully outfitted Dodge Maxi vans. These vans are equipped with heating/cooling, a generator, and adequate storage for all components. The vans carry a full complement of road safety equipment and tools for making small repairs. The vans are equipped with additional lighting for testing during pre-dawn and post dusk hours. The new RSD4600 includes the following improvements over the RSD3000:

- 1) A longer beam range for safer, more versatile deployment
- 2) Wider, more stable platform resulting in less operational vibration
- 3) Simple and easy setup with laser alignment aids
- 4) Alignment platforms to facilitate a fast and secure alignment result
- 5) Continuous automatic CO<sub>2</sub> for background compensation minimizes the need for field calibration. (Only one or two calibrations are generally required during a full day of data collection.)
- 6) Fourth generation real-time measurement validation

- 7) Signal sensitivity and accuracy that significantly exceed 2002 California BAR certification standards
- 8) Fewer degrees of freedom in alignment resulting in improved optical stability and less noise for increased productivity, yielding more valid records.
- 9) A Windows operating system for ease of operation and true multi-tasking
- 10) A fuel specific smoke measurement using a UV wavelength that senses the fine particles invisible to traditional visible light opacity meters
- 11) Rugged assemblies requiring less maintenance and resulting in less downtime

### **2.3. Equipment QA/QC Audits:**

#### **2.3.1. Factory Testing and Certification**

When an RSD system is built at the Tucson Technology Center, it undergoes several steps to ensure accuracy. First, the source detector module is bench calibrated. It is then audited using several blends of gas. When the system is fully calibrated and assembled, it is tested again in the parking lot using an audit truck. The unit tests are based on the BAR OREMS specification.

An audit truck is a modified vehicle that uses a long exhaust stack to direct the vehicle engine exhaust upwards and away from the roadway. Audit gases of known concentrations are dispensed through a simulated tailpipe routed to the rear of the audit truck. When the truck is driven past a roadside remote sensing SDM/VTM set of modules, the system measures the pollutant concentrations in the dispensed test gas instead of the vehicle engine exhaust.

The remote sensing unit is setup in a parking lot to avoid interference from other traffic. The auditor drives the audit truck through the remote sensing system 40 times for each gas blend during acceptance testing. Envirotec detector accuracy, including speed and acceleration, will meet the detector accuracy tolerances shown below for at least 97.5% (39/40) runs for each gas. Six different audit gas blends are used to verify the unit accuracy over a range of pollutant concentrations.

##### **2.3.1.1 Detector Accuracy:**

(1) The carbon monoxide (CO%) reading will be within  $\pm 10\%$  of the Certified Gas Sample, or an absolute value of  $\pm 0.25\%$  CO (whichever is greater), for a gas range less than or equal to 3.00% CO. Negative values shall be included and will not be rounded to zero. The CO% reading will be within  $\pm 15\%$  of the Certified Gas Sample for a gas range greater than 3.00% CO. Negative values will be included and will not be rounded to zero.

(2) The hydrocarbon reading (recorded in ppm propane) will be within  $\pm 15\%$  of the Certified Gas Sample, or an absolute value of  $\pm 250$  ppm HC, (whichever is greater). Negative values will be included and will not be rounded to zero.

(3) The nitric oxide reading (ppm) will be within  $\pm 15\%$  of the Certified Gas Sample, or an absolute value of  $\pm 250$  ppm NO, (whichever is greater). Negative values shall be included and will not be rounded to zero.

#### 2.3.1.2 Speed and Acceleration Accuracy:

(1) The vehicle speed measurement will be accurately recorded within  $\pm 1.0$  mile per hour.

(2) The vehicle acceleration measurement will be accurately recorded within  $\pm 0.5$  mile per hour / second.

### 2.3.2. Daily Set-Up and Calibration

Every scheduled work day, the operator drives to an existing or new test site. The operator's first duty is to provide himself and passing motorists with a safe work area. The next step is to set up the source detector module and allow the electronic components within to warm up for a minimum of 30 minutes. Following the set up and alignment of the other components, the SDM is aligned and ready for Calibration.

A puff audit calibration is a method of testing the equipment without the need to drive an audit truck past the unit. During a gap in the passing traffic, a test gas with a known blend of HC, CO, CO<sub>2</sub> and NO<sub>x</sub>, is puffed into the optical path of the remote sensing beam. If necessary, the instrument set-up is adjusted so that the pollutant values measured by the unit, match the known concentrations of pollutants in the test gas blend.

Calibration for the RSD4600 occurs once at the beginning day and at mid-day if conditions warrant.

### 2.3.3. Equipment Audits

After each daily calibration, the Operator is required to perform an audit to verify an optimal calibration. This is done in the same manner as the calibration except the audits are "earmarked" in the data file with an "A". If the audit passes a predetermined pass/fail tolerance, the operator is allowed to begin testing vehicles. If not, the operator is required to realign and recalibrate the system until it passes the audit process.

### 2.3.4. Quarterly Audits (drive-by audits)

An Audit Truck is used to conduct an on-road audit of the RSD4600 system approximately every three months. The audit truck is outfitted with a gas cylinder rack that holds a maximum of 6 compressed gas cylinders. Each gas cylinder is equipped with a high flow regulator, a high flow solenoid and a Tygon hose, which is adapted to a simulated tailpipe. Inside the truck cab, the audit truck operator has the ability to switch power from solenoid to solenoid to select the appropriate audit gas cylinder for drive-by audits. A traffic cone is placed 60-70 feet preceding the test site. This is used as a mark to begin the flow of gas to ensure there is an adequate plume of audit gas as the truck passes the RSD4600. The typical gas blends used in the audits are show below:

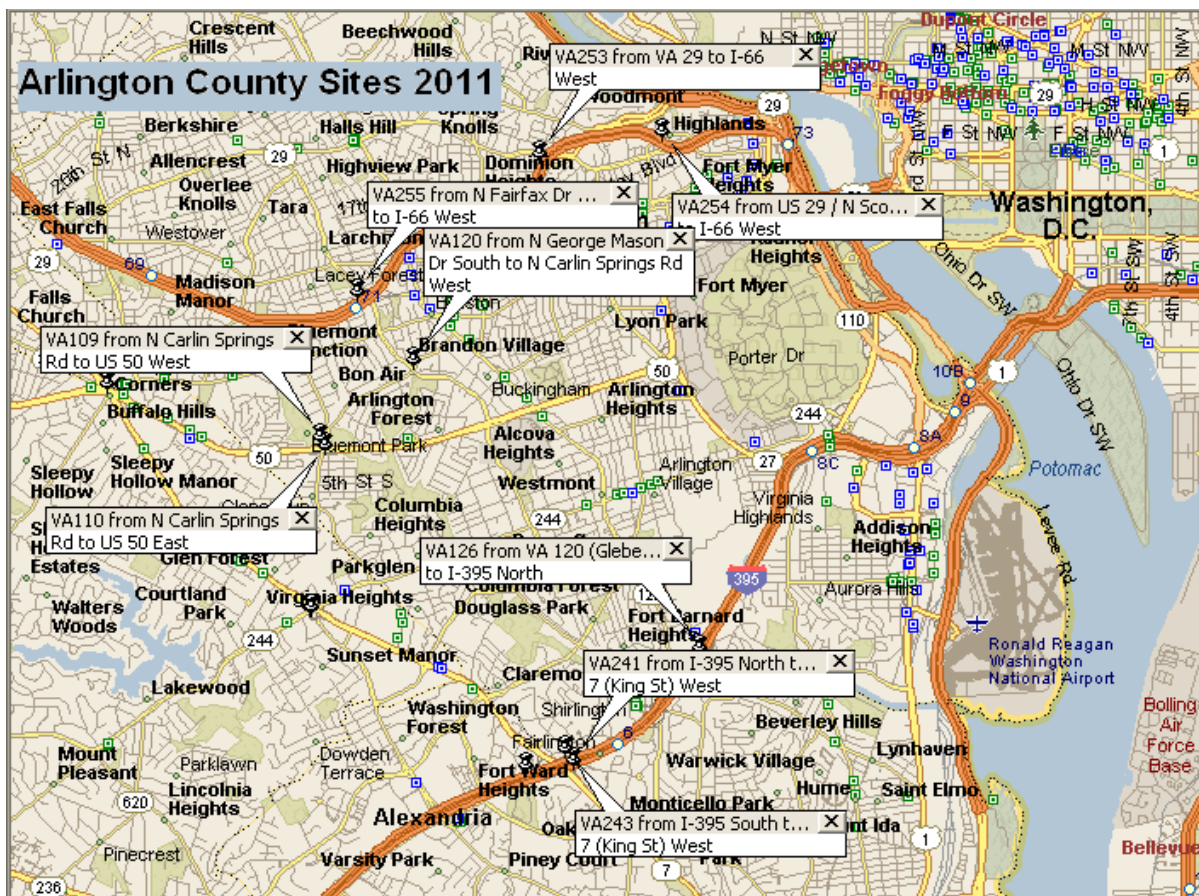
	HC (ppm)	CO	CO <sub>2</sub>	NO <sub>x</sub> (ppm)
Blend # 1	500	0.5%	14.70%	3000
Blend # 2	3000	1.00%	14.38%	2000
Blend #3	2000	2.75%	13.10%	500
Blend #4	6000	5.00%	11.55%	250

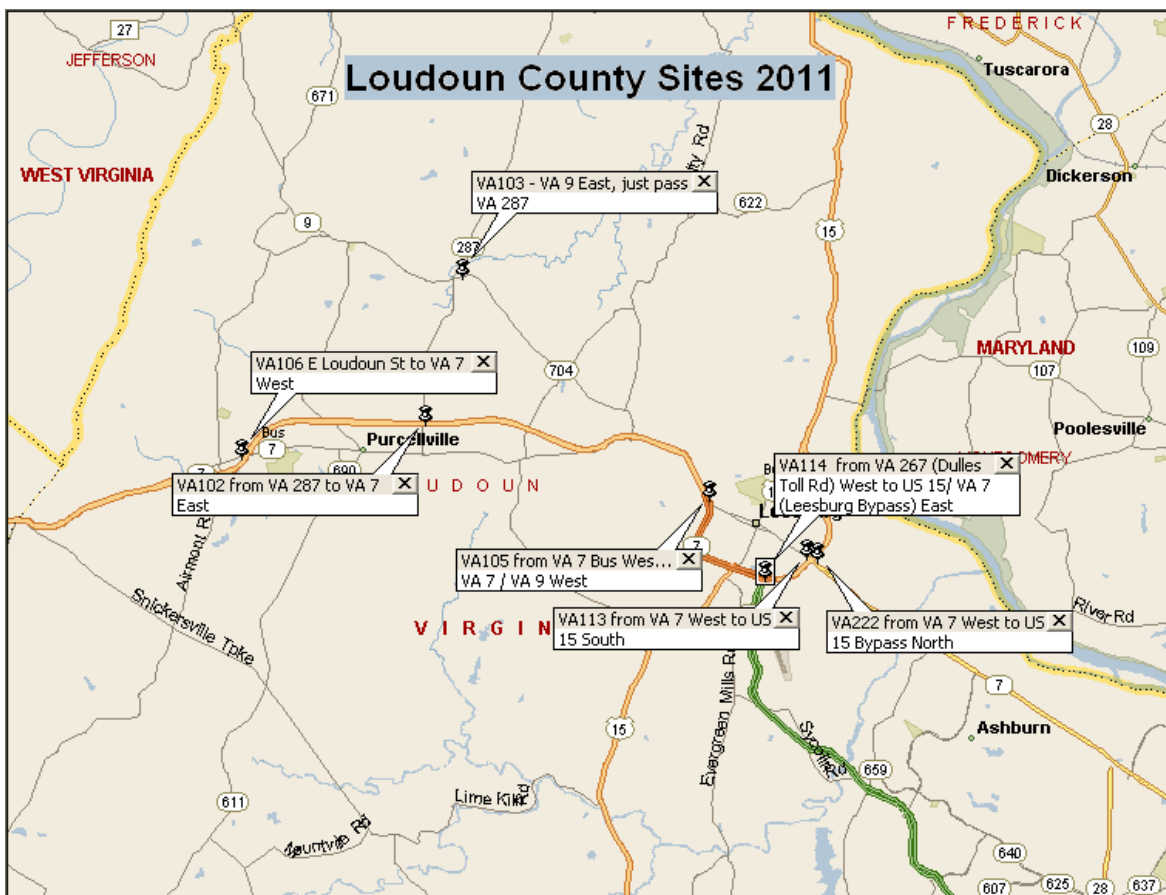
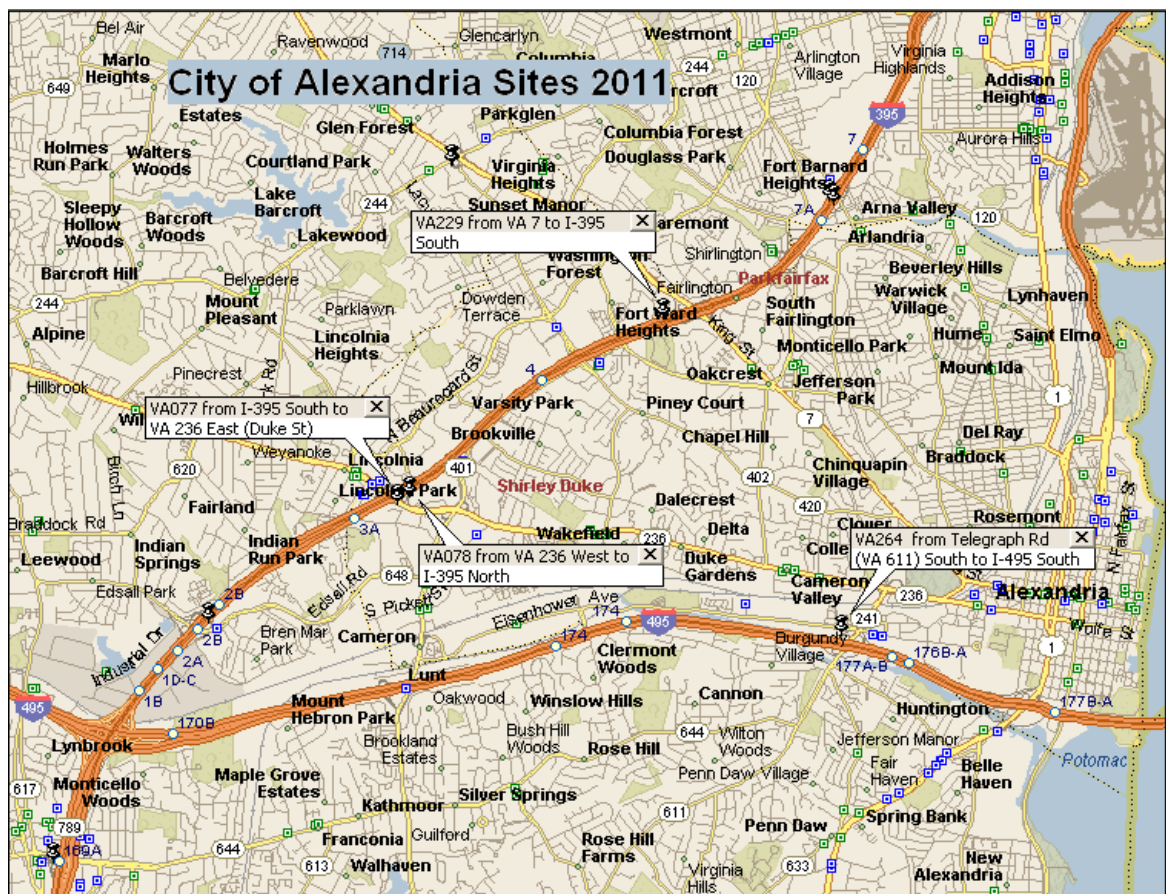
In addition to the equipment, the operator is also audited for following procedures: site setup, calibration, camera alignment, traffic safety and documentation.

## 2.4. Site Locations

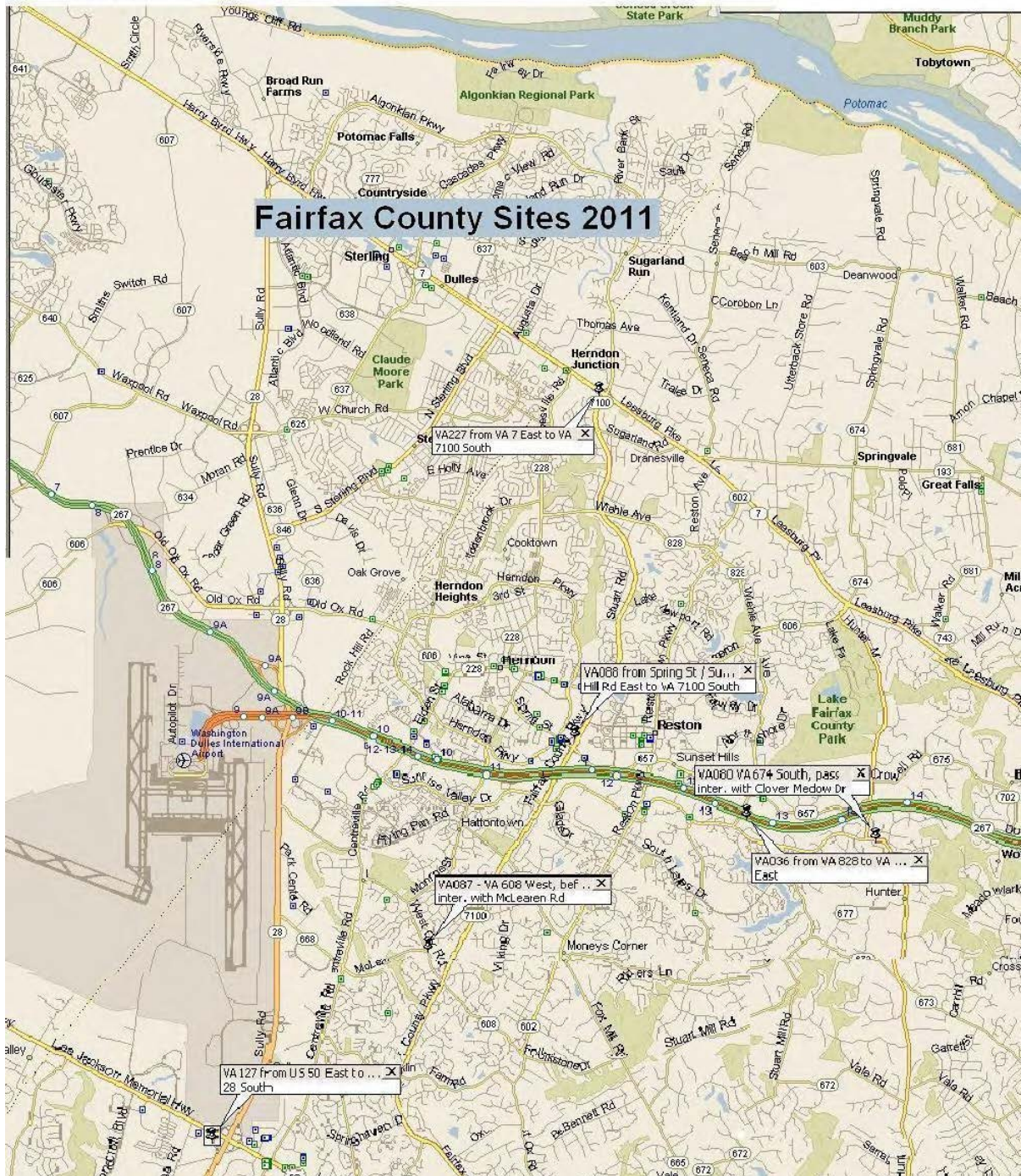
For the 2011 study, DC registered vehicles were measured at 78 sites in northern Virginia. The site locations shown in Figure 2.2 provided a broad sampling of DC vehicles traveling in northern Virginia.

**Figure 2-2 Site Locations in Northern Virginia**

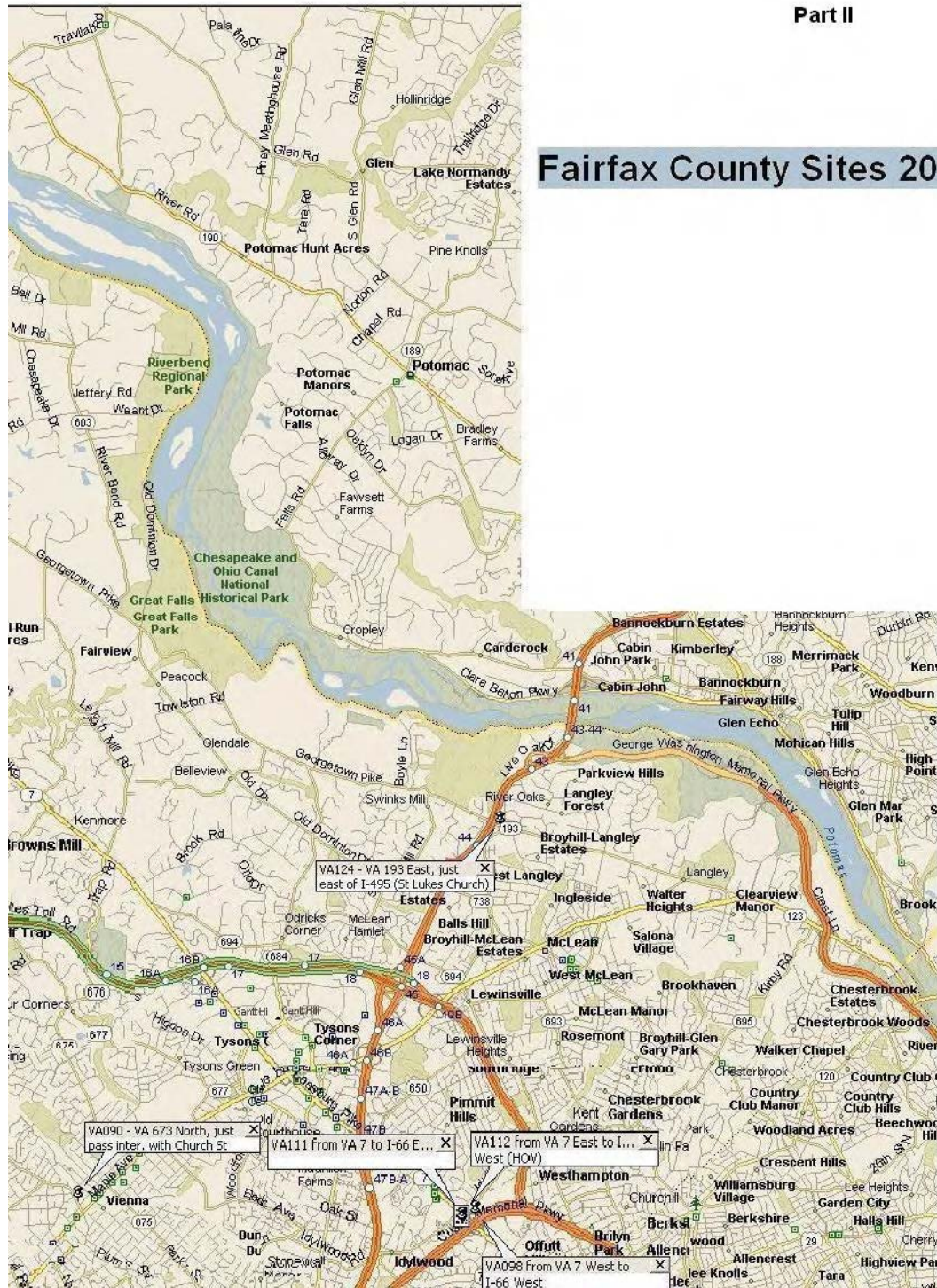


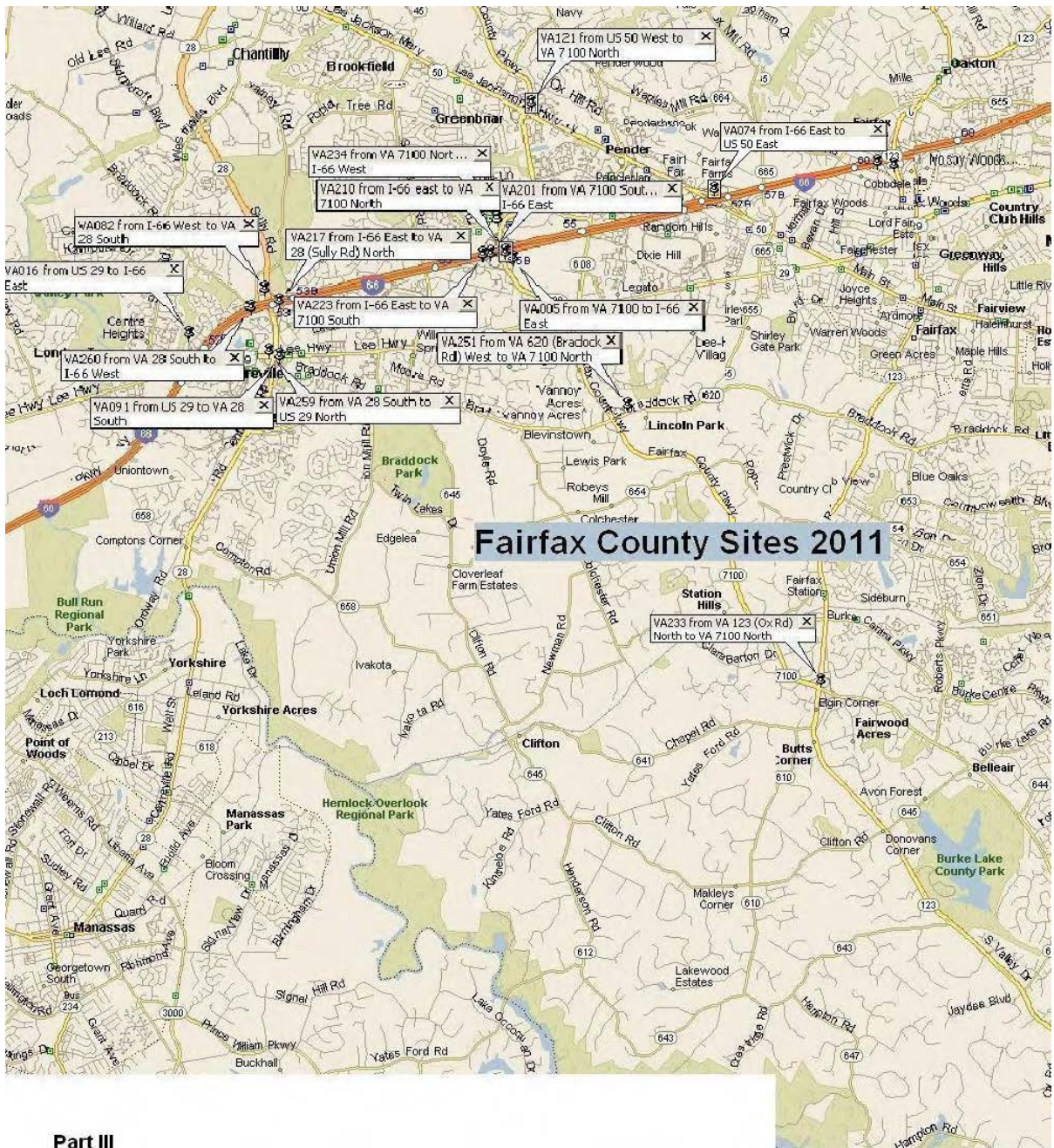


Part I

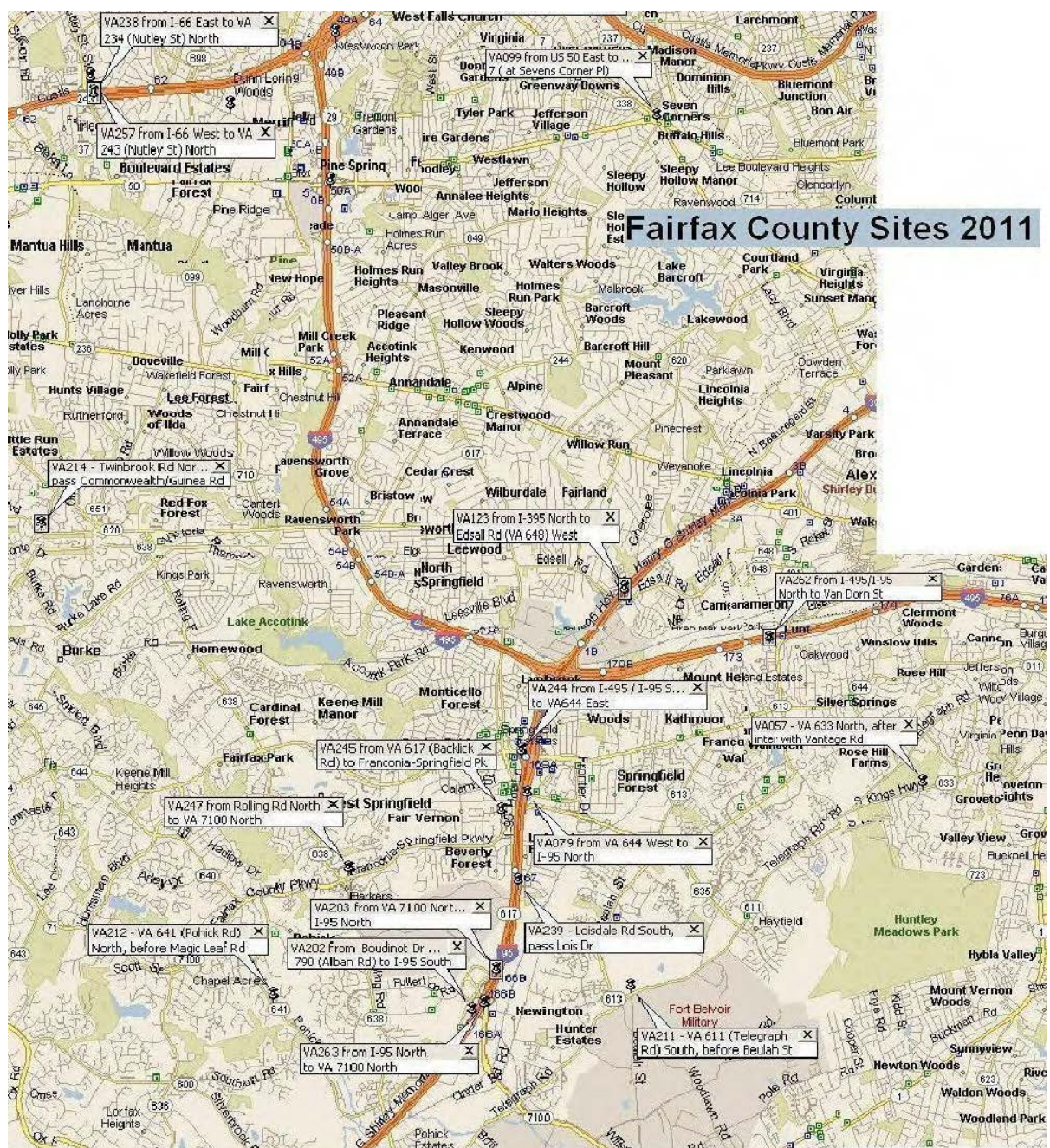


## Fairfax County Sites 2011

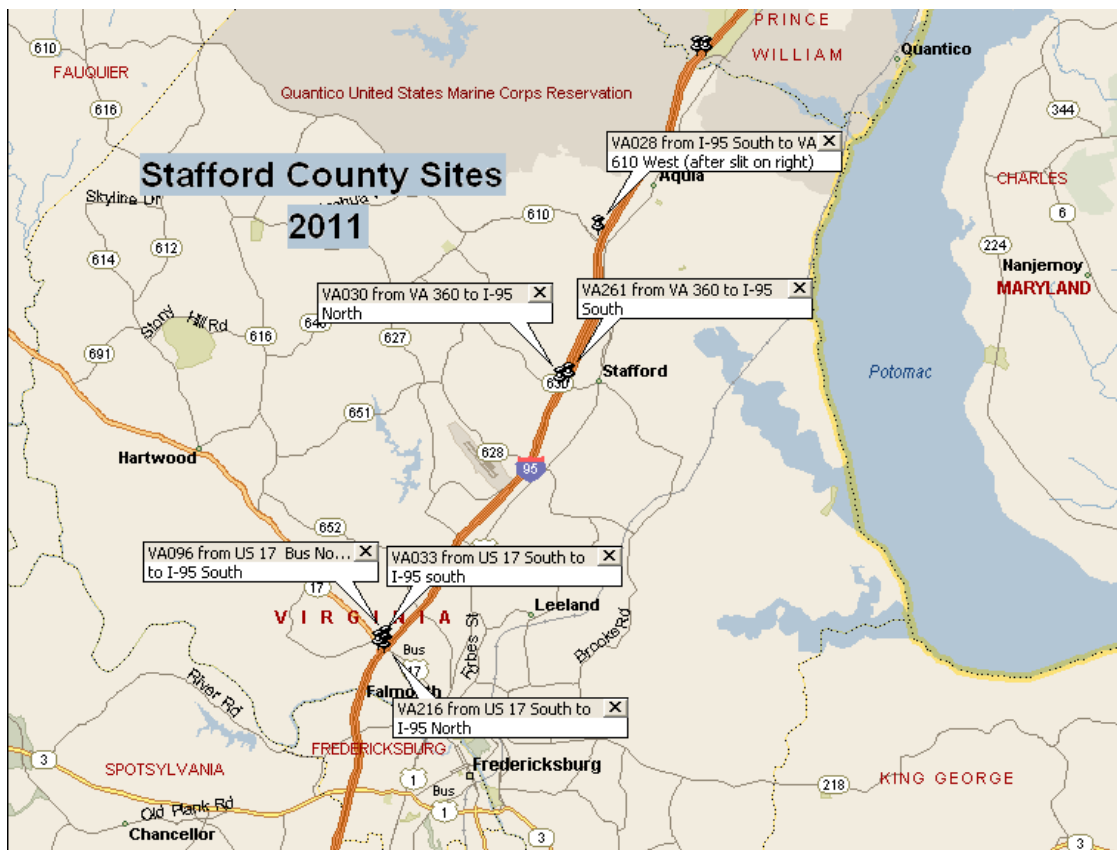
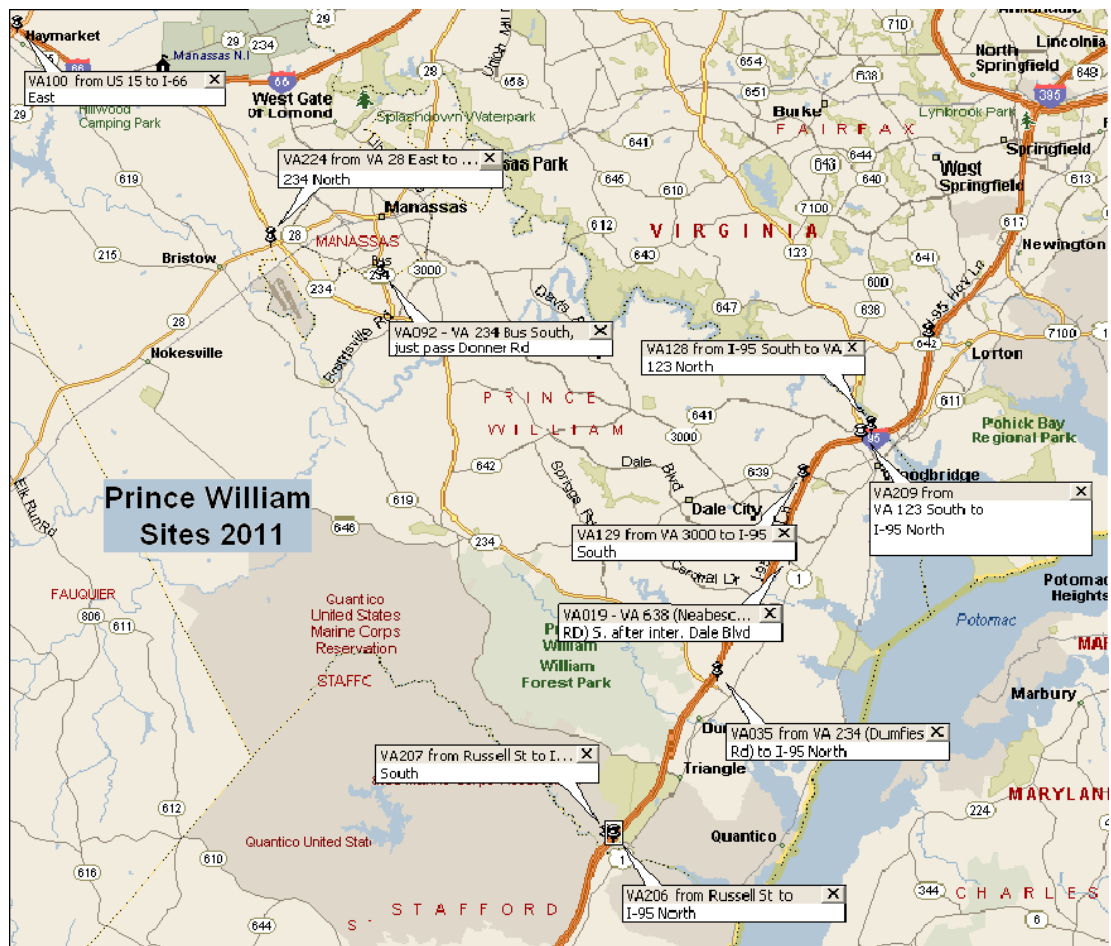




Part III



## Part IV



## **2.5. Data Screening**

Envirotest applied the following screening checks to the RSD measurements to ensure the data used for fleet evaluation and fleet comparisons are reasonable and consistent:

- Screening of exhaust plumes
- Screening of hourly observations to check for cold starts;
- Screening of high values
- Screening of day-to-day variations in emissions values
- Screening for Vehicle Specific Power (VSP) range

The first four of these screening procedures are described in the following paragraphs. The VSP screening is described in section 3.2.

### **2.5.1. Screening of Exhaust Plumes**

The RSD4600 unit takes many measurements of each exhaust plume in the one half second after each vehicle passes the equipment.

The basic gas record validity criteria applied are:

- A gas record is valid if there are at least 5 plume measurements where the sum of the amount of CO<sub>2</sub> and CO gas exceed 10%-cm<sup>i</sup>; or
- A gas record is valid if there are at least 5 plume measurements where the sum of the amount of CO<sub>2</sub> and CO gas exceed 5%-cm and the background gas values are very stable (not changing faster than a specified rate) at the time the front of the vehicle breaks the measurement beam.

### **2.5.2. Screening of Hourly Observations**

Envirotest is concerned about vehicles operating in cold start mode or under conditions when exhaust plumes condense to steam. Vehicles measured under these conditions could appear to have high emissions without any emission system problems. To investigate this possibility, Envirotest tabulated for each site and hour the percentage of 2006 and newer vehicles that exceeded 150 ppm HC. The percent of 2006 and newer vehicles that exceed 150 ppm HC is normally low unless temperatures are below 40F when vehicles can trail steam plumes. Envirotest discarded data from emissions analysis when more than 5% of newer models exceed 150ppm HC since this may indicate cold temperatures, cold-start vehicles or an equipment calibration error or malfunction. Several hours were identified as illustrated in Table 2-3 – particularly morning hours in January and February. This screen invalidated 646 measurements.

Measurements were also screened for the presence of unusually high values or unusually low values and none were identified.

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<sup>i</sup> The unit of measurement 10%-cm is a measurement of the amount of a gas in the optical path. In this case, if all the molecules of the gas in the path were collected together into just one centimeter of the path then the concentration of the gas in the one-centimeter would be 10%.

**Table 2-3: Percentage of 2006 and Newer Models with HC > 150 ppm**

Day	RSD Unit	Site	06 & earlier	07	08	09	10	11	12	13	14	15	16	17	18 & later
3-Jan-11	__06064618	VA035	3%	4%	2%	2%	4%	2%	1%	2%	1%	0%	1%	4%	
4-Jan-11	__06064618	VA005	4%	0%	5%	3%	3%	0%							
5-Jan-11	__06064618	VA106	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	8%	
6-Jan-11	__06064618	VA091	13%	14%	13%	8%	7%	3%	2%	4%	0%	3%	7%	3%	
10-Jan-11	__06064618	VA078	18%	20%	14%	13%	9%	7%	3%	2%	8%	9%	12%	4%	
12-Jan-11	__06064618	VA087		21%	9%	10%	6%	0%							
13-Jan-11	__06064618	VA074	0%	0%	2%	1%	4%	0%	0%	7%	0%	0%	0%	0%	0%
14-Jan-11	__06064618	VA096	33%	50%		0%	0%	0%	0%			0%	0%	0%	
19-Jan-11	__06064618	VA114	0%		0%	0%	0%	0%							
20-Jan-11	__06064618	VA092	31%	22%	23%	16%	2%	3%	4%	3%	0%	1%	0%	2%	
21-Jan-11	__06064618	VA079	4%	7%	5%	8%	5%	3%	7%	5%	15%	14%	9%	12%	
24-Jan-11	__06064615	VA082							0%	1%	0%	0%	1%	1%	
24-Jan-11	__06064618	VA082	39%	44%	63%	5%	4%	0%							
25-Jan-11	__06064615	VA030	12%	12%	11%	3%	0%	4%	0%	0%	0%	0%	5%	0%	
31-Jan-11	__06064615	VA028	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1-Feb-11	__06064615	VA203	6%	9%	5%	9%	4%	7%	0%	1%	3%	3%	2%	3%	0%
3-Feb-11	__06064615	VA077	0%	4%	1%	1%	1%	0%	0%	1%	0%	0%	0%	0%	0%
4-Feb-11	__06064615	VA028	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%
7-Feb-11	__06064615	VA211	10%	6%	11%	8%	9%	2%	0%	0%	0%	1%	0%	0%	
8-Feb-11	__06064615	VA209	3%	0%	0%	1%	0%	0%	0%	0%	0%	0%	2%	1%	
9-Feb-11	__06064616	VA100	15%	12%	13%	2%	17%	2%	1%	2%	3%	3%	5%	5%	0%
10-Feb-11	__06064615	VA091						8%	3%	5%	0%	0%	3%	2%	
10-Feb-11	__06064616	VA091	4%	11%	13%	10%	19%								
14-Feb-11	__06064615	VA106	20%	0%	0%	0%	0%								
15-Feb-11	__06064615	VA092	7%	9%	7%	2%	3%	0%	0%	0%	4%	0%	0%	0%	
16-Feb-11	__06064615	VA087	5%	2%	3%	1%	0%	0%	0%	0%	0%	0%	0%	0%	
17-Feb-11	__06064615	VA005										0%	0%	0%	
23-Feb-11	__06064616	VA035	2%	4%	2%	1%	0%	0%	0%	0%	1%	0%	0%	0%	
1-Mar-11	__06064616	VA096	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
2-Mar-11	__06064616	VA030	6%	5%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
7-Mar-11	__06064616	VA079	9%	8%	3%	3%	4%	1%	0%	0%	0%	0%	0%	0%	0%
8-Mar-11	__06064616	VA078	6%	3%	2%	1%	0%	1%	0%	0%	1%	0%	0%	1%	0%

### 2.5.3. Screening of Day-to-Day Variations in Emissions Values

Day-to-day decile values were compared for 2006 and newer vehicles. Only a small percentage of these vehicles are expected to have high emissions. For this group of vehicles, we expect the intermediate decile emission values should not vary significantly from day-to-day, from site-to-site or between RSD units. In Figure 2-3, the HC decile values for several days of measurements are plotted side-by-side as an example. This comparison revealed median values for the 2006 and newer models that ranged day-to-day from -18ppm to +38ppm. Although these variations are well within the HC specification of the RSD4600 units they might be significant compared to average fleet emissions for newer vehicles.

We looked to determine whether the day-to-day movements correlated with other variables such as site conditions and exhaust plume volumes but no obvious correlation was found. The most likely explanation is that this represents the limits of accuracy in the daily instrument set-up and small differences between the four RSD units. For HC, an adjusted set of values was created by direct addition or subtraction of a daily offset that would set the daily median values to zero. We believe this is appropriate since the median I/M test result for new models is normally zero or very close to zero. The results of the correction are shown in Figure 2-4 and analyses shown later in this report used the adjusted HC values.

Example day-to-day decile CO, NO and UV smoke values for 2006 and newer vehicles are shown in Figures 2-5 to 2-7. Median values for CO, NOx and smoke were 0.02%, 7ppm and 0.013 respectively. These small positive and zero values seem reasonable and adjustments were not applied to these pollutants.

**Figure 2-3 Example Daily HC Deciles**

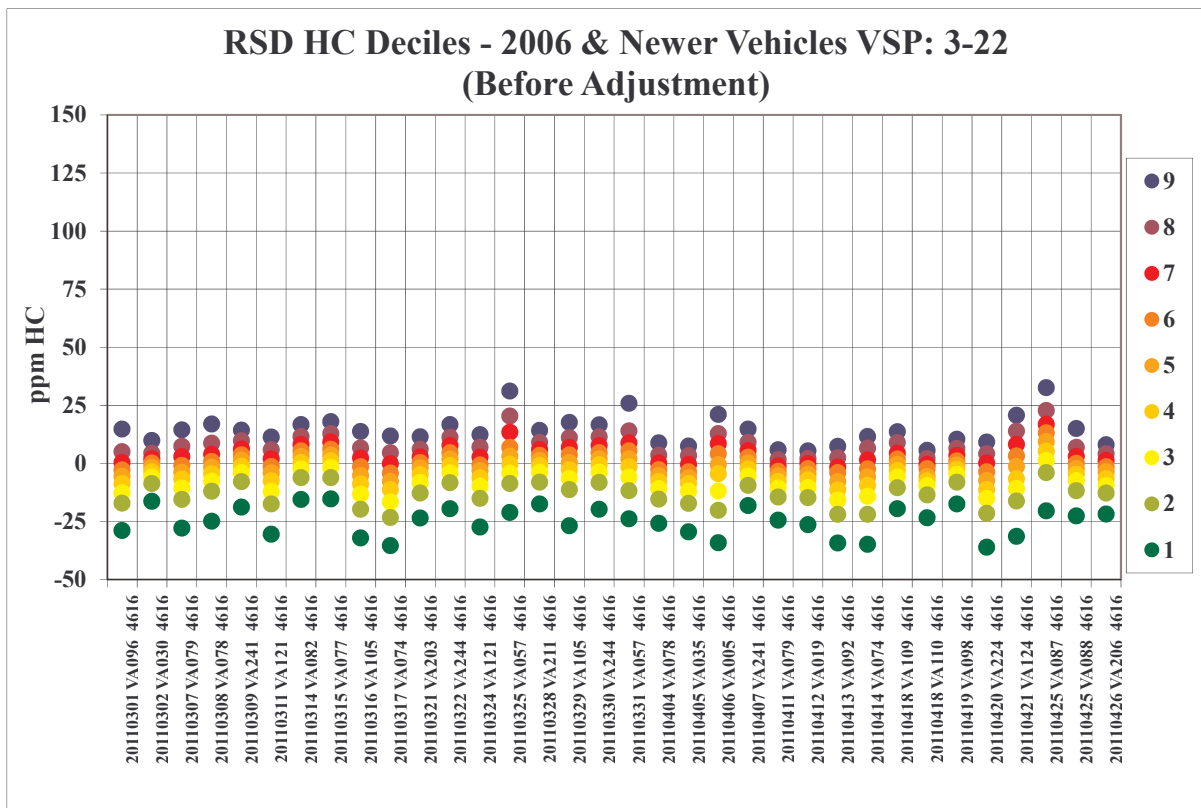


Figure 2-4: Example Daily HC Deciles – After Adjustment

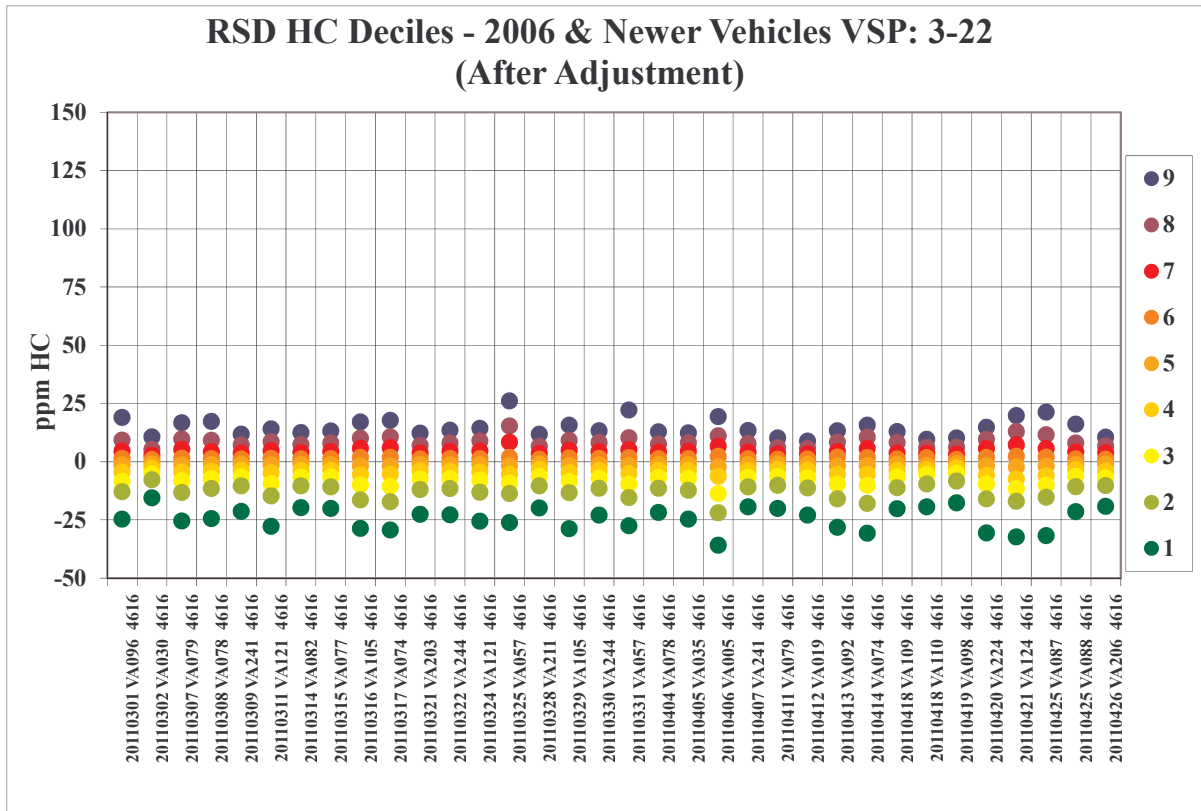


Figure 2-5 Example Daily CO Deciles

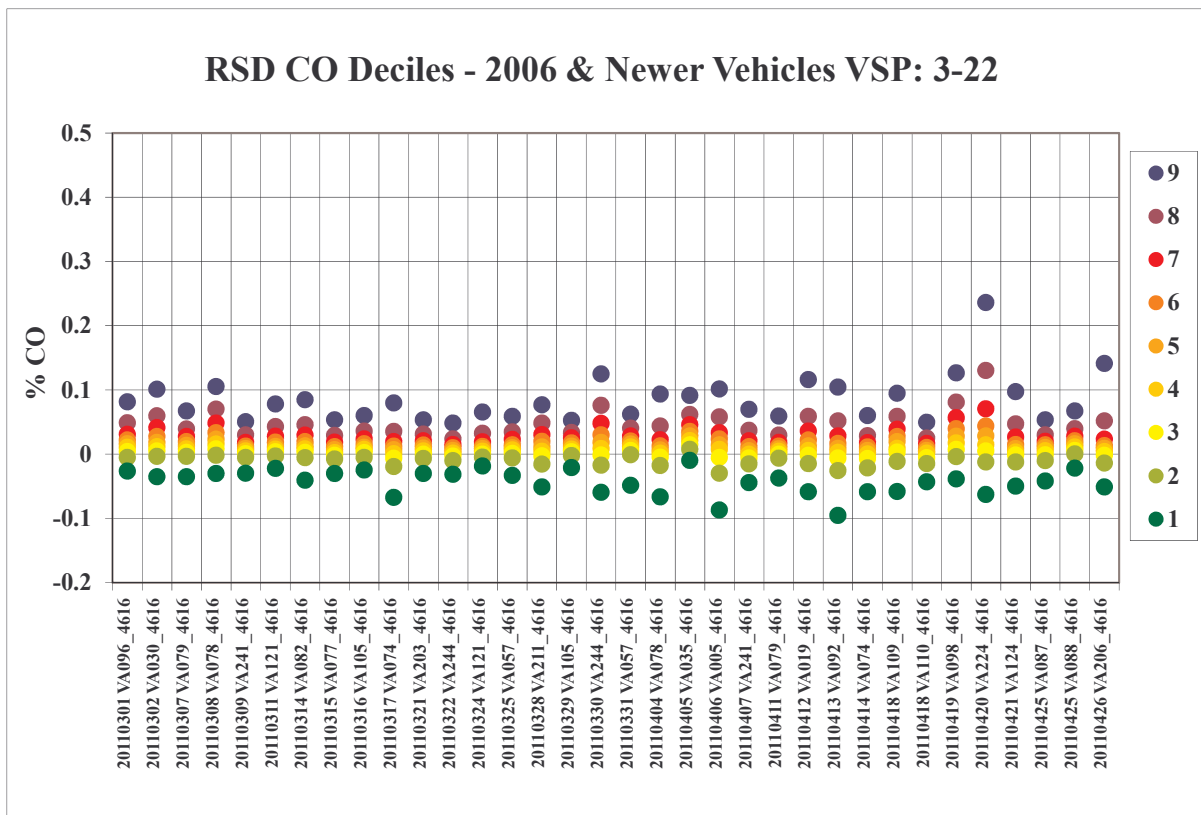


Figure 2-6 Daily Example Daily NO Deciles

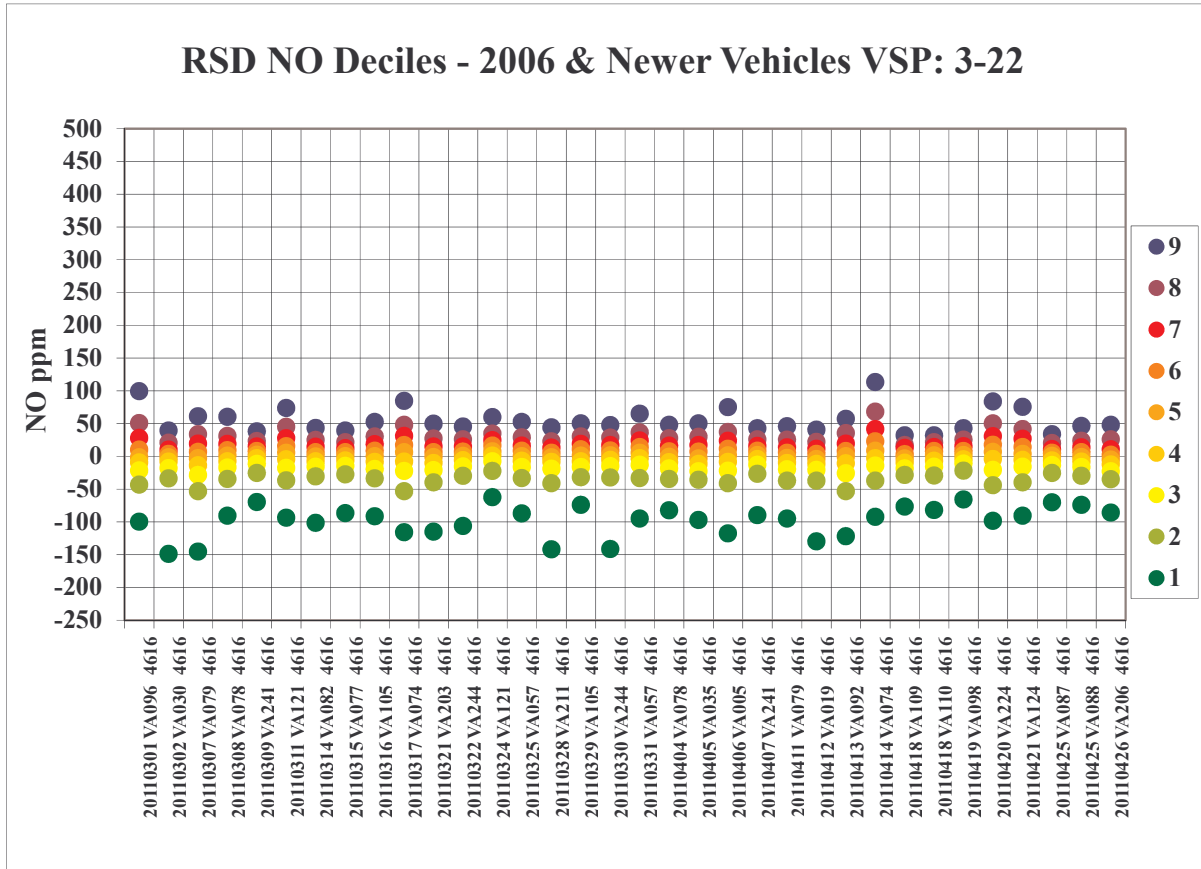
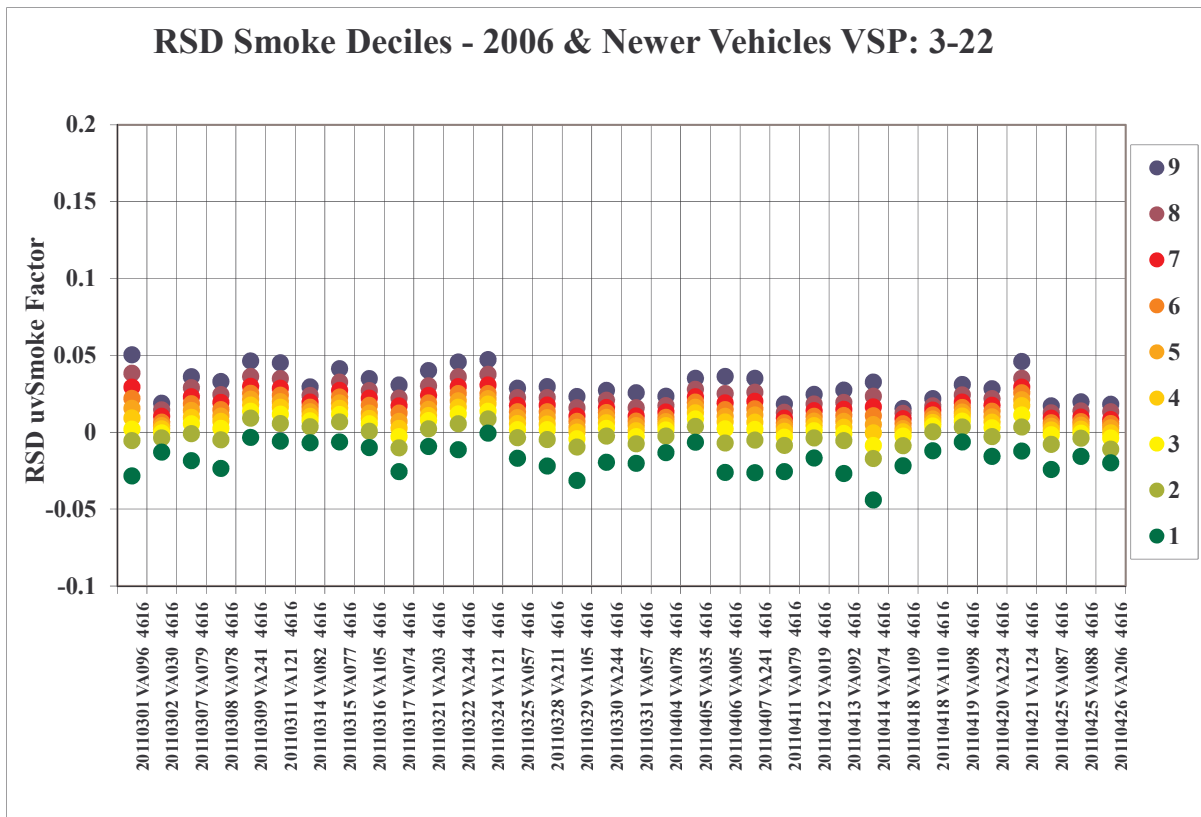


Figure 2-7 Daily Example Daily Smoke Deciles



### 3. ANALYSIS OF DATA COLLECTED

#### 3.1. Statistics and RSD Coverage

##### 3.1.1. Overall Program Statistics

Table 3-1 shows the remote sensing measurements made of DC plates. Approximately 7,900 measurements were made with complete information (speed, acceleration, emission measurements and a plate). Ninety three percent of valid records with a visible plate were matched to registrations.

**Table 3-1: Data Collection Summary**

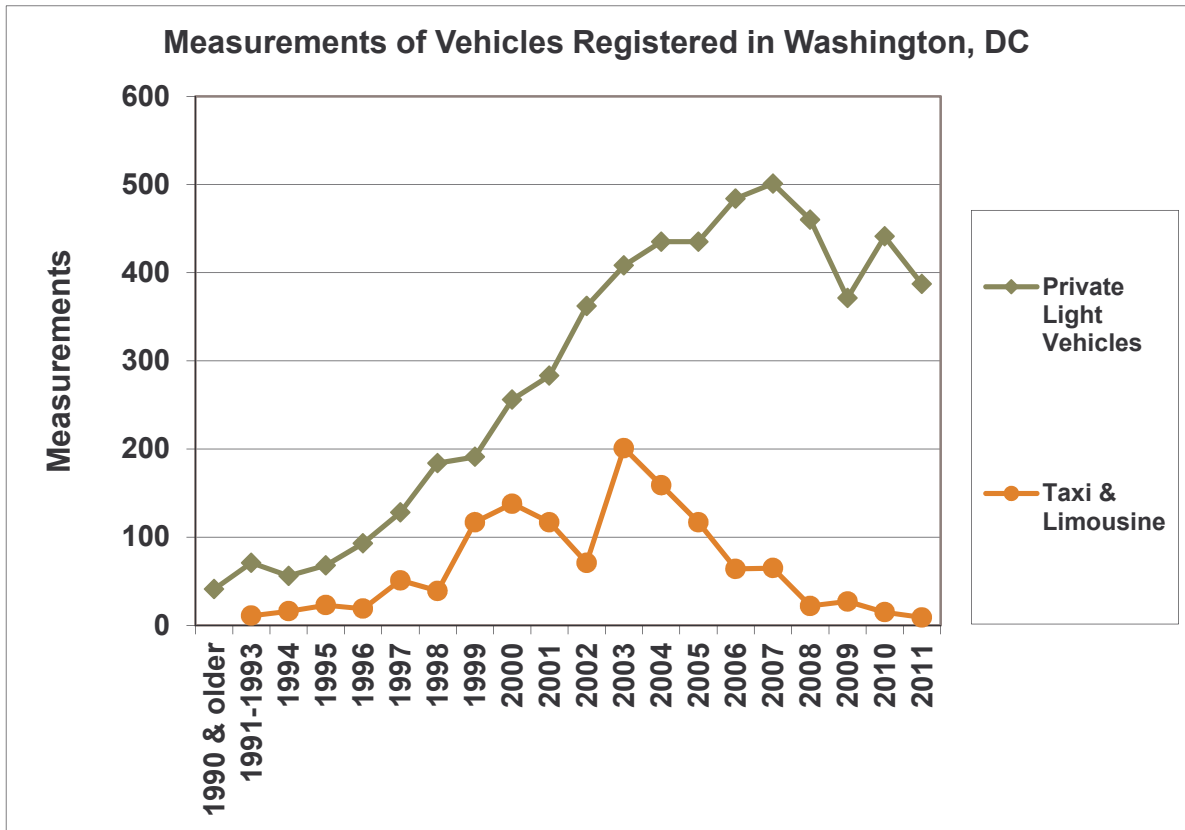
Total Number of RSD Units Vans Utilized	4
Total Number of Sites Utilized	78
Total Number of Van/Site Days Readings Taken	200
With valid readings, within 3-22 kw/t VSP	7,908
Valid after additional screening	7,262
Valid with visible plate	7,232
Matched to DC registrations	6,726
Unique DC Vehicles Identified	5,230
Unique DC Vehicles Identified Once	4,253
Unique DC Vehicles Identified Twice	651
Unique DC Vehicles Identified Three Times	203
Unique DC Vehicles Identified Four or More Times	123

##### 3.1.3 RSD Measurements by Type and Model Year

Figure 3-1 shows the distribution of the vehicles measured on-road and registered in DC that were matched to registration information. The on-road distribution tends to be more skewed towards newer vehicles than the number of registrations; 1) newer vehicles are more active, and 2) there are more 'dead' DMV records of older vehicles.

Taxis and Limousines identified by plates with "H" followed by 5-digits or "L" followed by 4-digits are shown as a separate class from other private vehicles.

Figure 3-1 Measurements of Vehicles Registered in DC



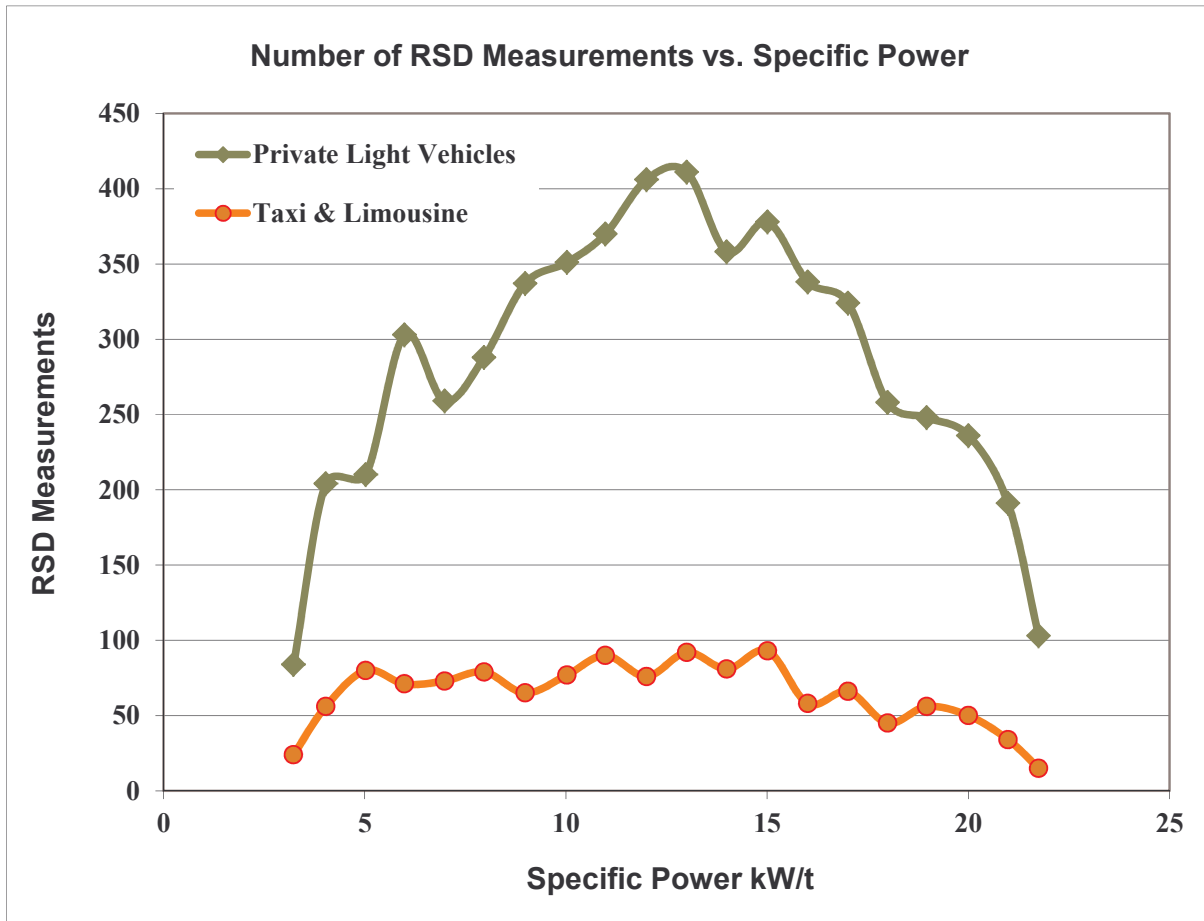
### 3.2. Vehicle Specific Power

Envirotest used the speed/acceleration and site grade data to determine Vehicle Specific Power (VSP). VSP attempts to estimate the power requirements per ton of the vehicle based upon speed, acceleration and slope at the site. VSP is defined by the following equation:

$$VSP = 4.364 \cdot \sin(\text{Grade in Deg}/57.3) \cdot \text{Speed} + 0.22 \cdot \text{Speed} \cdot \text{Accel} + 0.0657 \cdot \text{Speed} + 0.000027 \cdot \text{Speed} \cdot \text{Speed} \cdot \text{Speed}$$

The overall distribution of VSP at sites is shown in Figure 3-2. As described in the 2002 report<sup>1</sup>, Envirotest used observations where VSP is between 3 and 22 kW/t and a majority of observations fell within this range. Measurements outside of the desired VSP window were not included in subsequent analysis.

Figure 3-2: Distribution of VSP



### 3.3. Vehicle Fleet Emission Rates

#### 3.3.1. Fleet Emissions

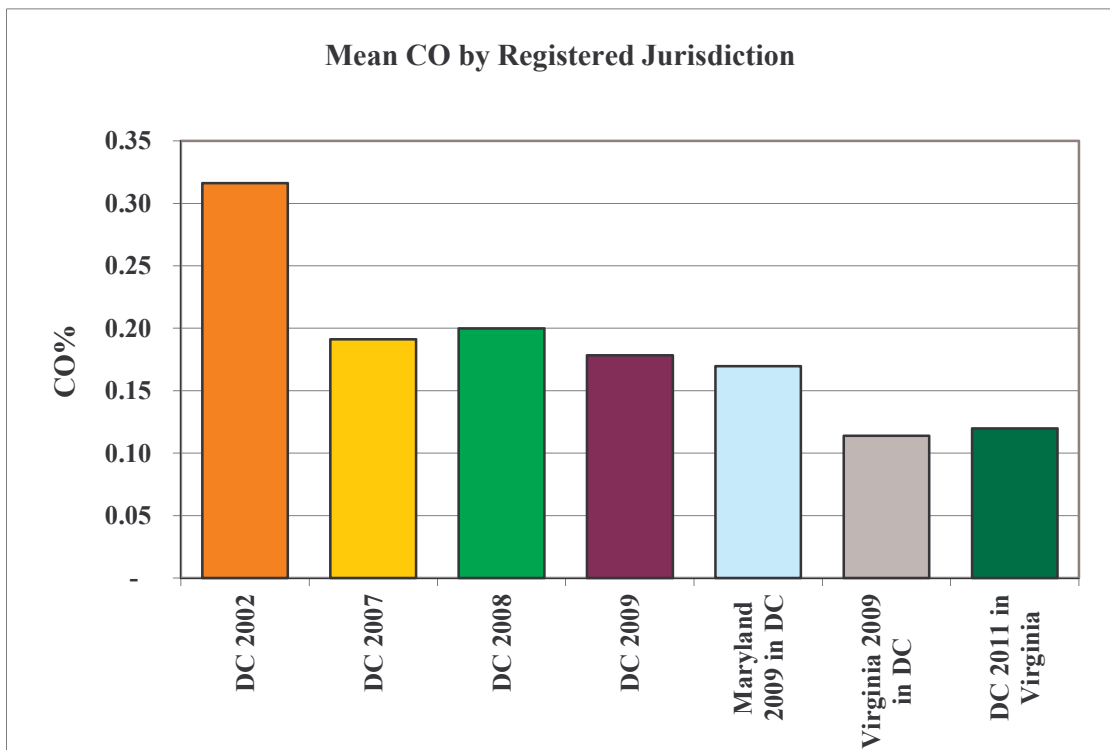
Envirotest calculated average carbon monoxide (CO), hydrocarbons (HC), and oxides of nitrogen (NO) emission rates of vehicles registered in DC. Average emissions were 0.12% CO, 17 ppm HC and 150 ppm NO.

Table 3-2 and Figures 3-3 through 3-5 illustrate the continuing downward trend in emissions over time<sup>2</sup>.

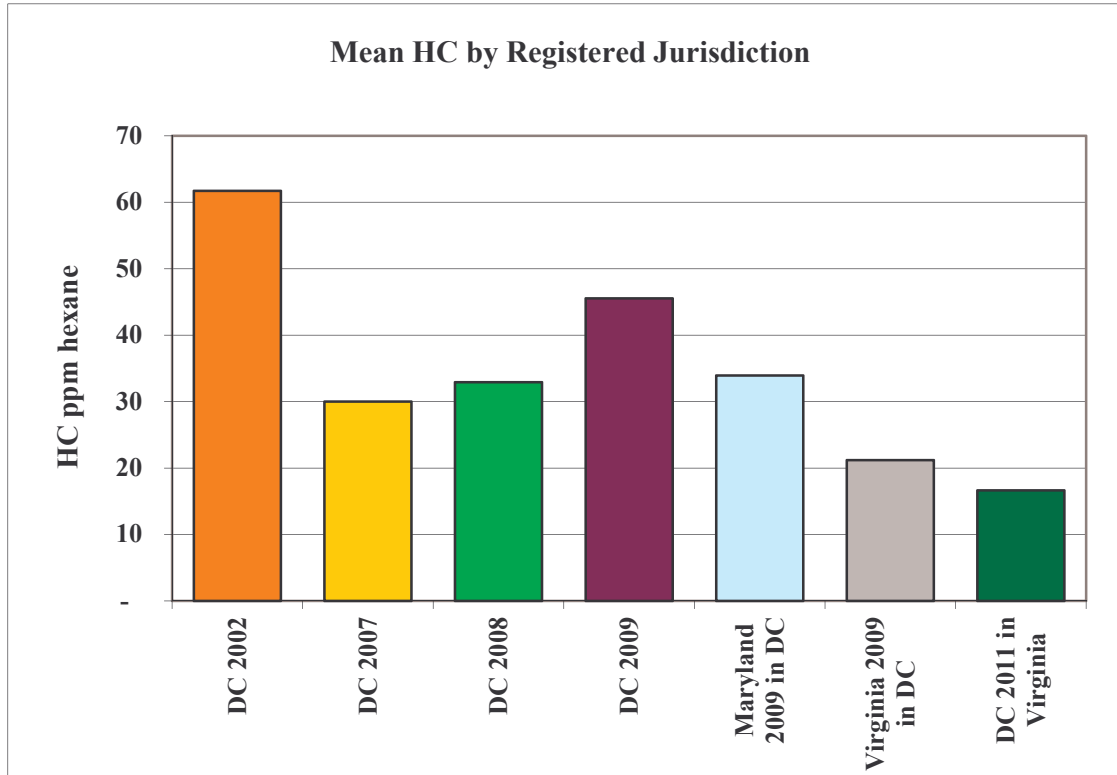
**Table 3-2: Emissions Trend**

Name	N	CO	HC	NO	Smoke	VSP
DC 2002	1,782	0.32	62	310	-	11.5
DC 2007	12,825	0.19	30	220	0.019	9.9
DC 2008	13,359	0.20	33	200	0.009	11.4
DC 2009	8,342	0.18	45	245	0.021	11.9
Maryland 2009 in DC	13,929	0.17	34	224	0.020	12.0
Virginia 2009 in DC	8,490	0.11	21	153	0.012	12.0
DC 2011 in Virginia	6,711	0.12	17	150	0.016	12.4

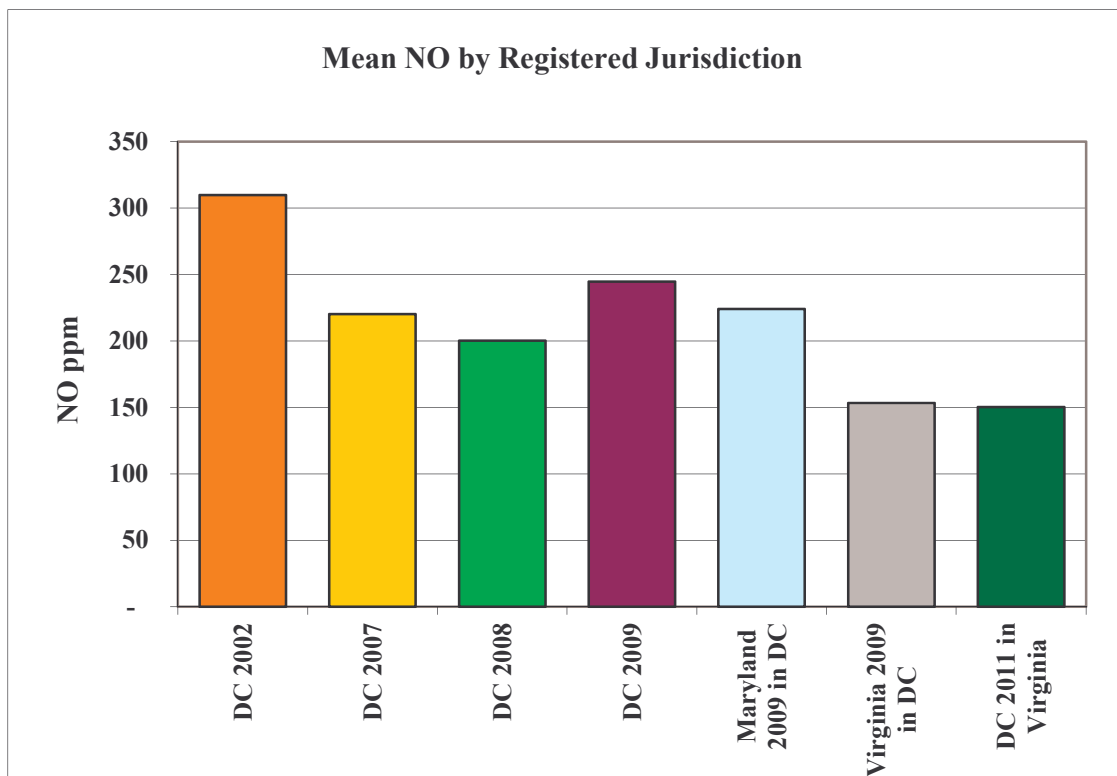
**Figure 3-3: CO Emissions Trend**



**Figure 3-4: HC Emissions Trend**



**Figure 3-5: NO Emissions Trend**



### 3.3.2. Taxi and Limousine vs. Private Vehicles

Vehicle type and fuel were decoded from the VIN. Fifteen vehicles with VINs that could not be decoded were omitted from the following tables and charts.

Table 3-3 shows that taxis had higher emissions than the general population of vehicles (private vehicles).

**Table 3-3: Taxi and Limousine Emissions vs. Private Vehicles**

Vehicle Type	N	CO	HC	NO	UV Smoke	VSP
Private	5,467	0.11	10	117	0.014	12.5
Taxi	1,244	0.18	46	296	0.023	11.9

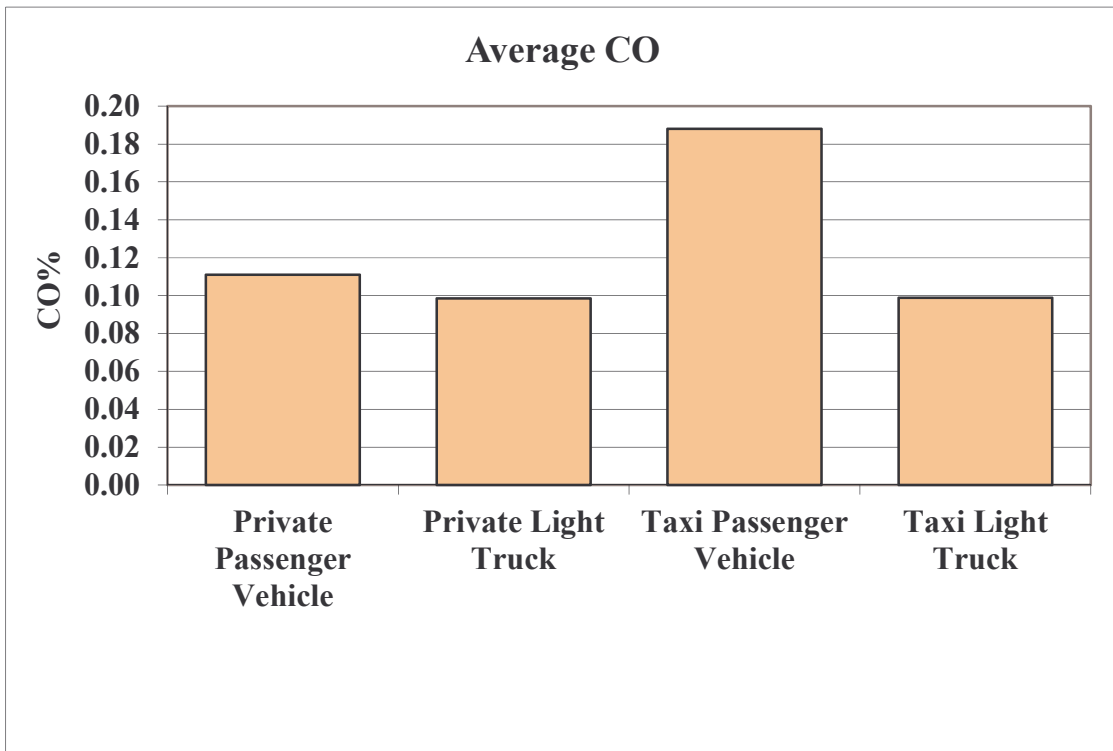
Table 3-4 and Figures 3-6 to 3-8 show average emissions for the two groups for passenger vehicles and light trucks. Taxi passenger vehicles had the highest average emissions for all pollutants.

**Table 3-4: Passenger Vehicle and Light Truck Emissions**

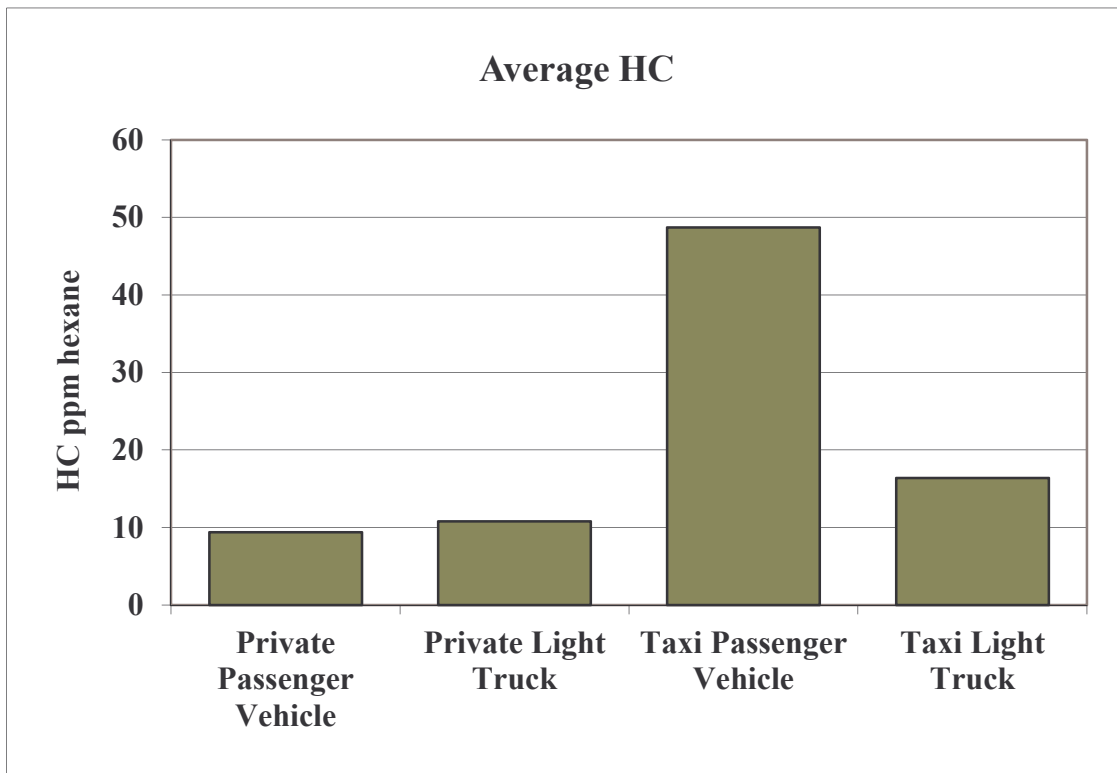
Name	N	CO	HC	NO	Smoke	VSP
Private Passenger Vehicle	3,303	0.11	9	104	0.013	12.8
Private Light Truck	2,164	0.10	11	136	0.016	12.0
Taxi Passenger Vehicle	1,137	0.19	49	308	0.024	11.9
Taxi Light Truck	107	0.10	16	166	0.015	11.8
<b>Total</b>	<b>6,711</b>	<b>0.12</b>	<b>17</b>	<b>150</b>	<b>0.016</b>	<b>12.4</b>

Subsequent charts in section 3.3.2 compare emissions from Taxis with those from other light vehicles by model year.

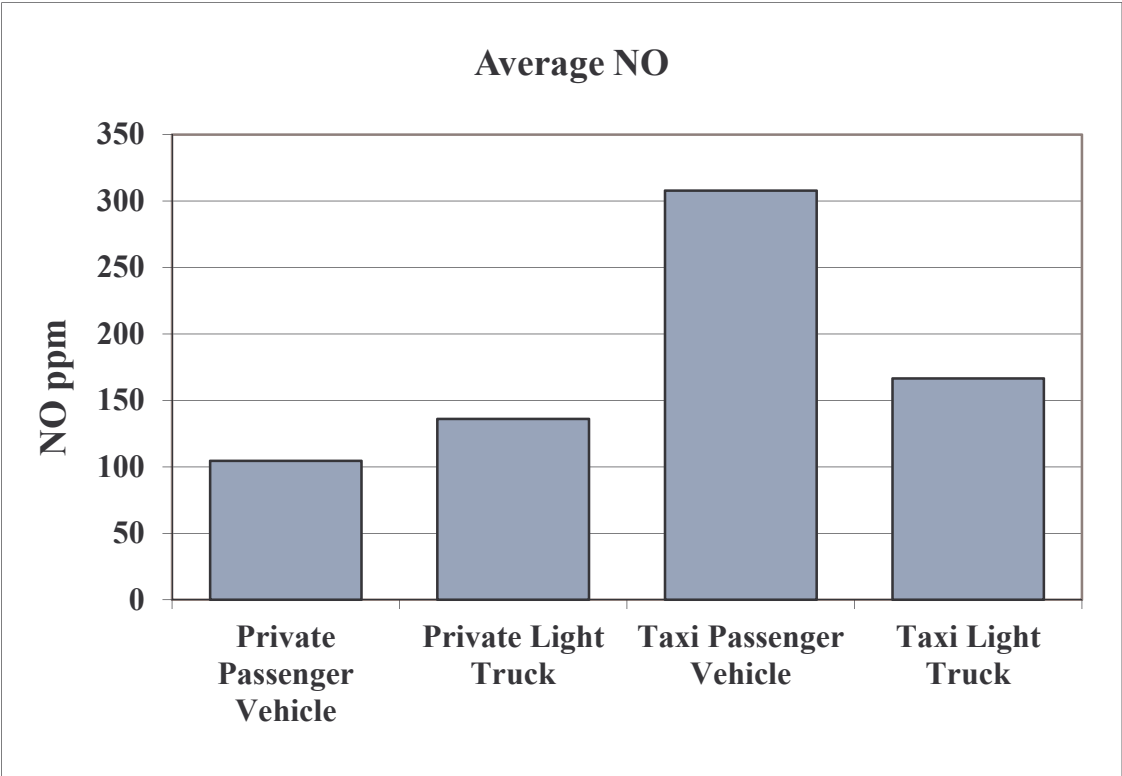
**Figure 3-6: Average CO Emissions**



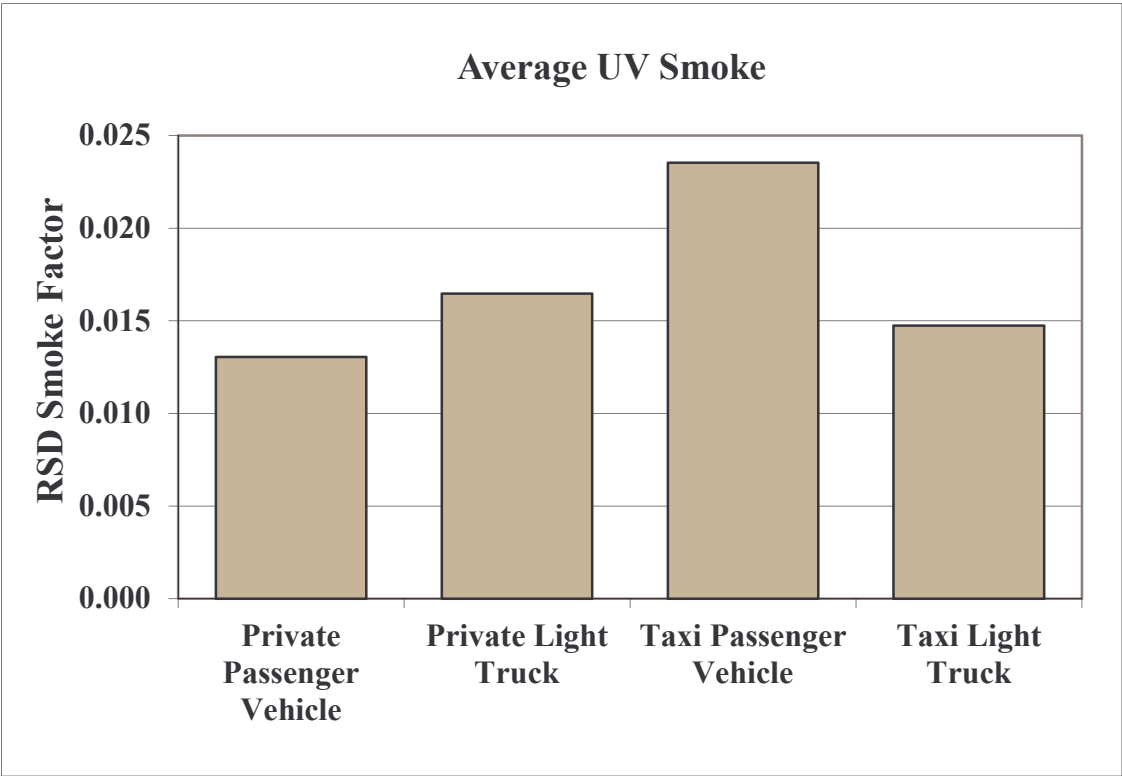
**Figure 3-7: Average HC Emissions**



**Figure 3-8: Average NO Emissions**



**Figure 3-9: Average VSP**



### 3.3.3. Emissions by Model Year

Average emissions of private vehicles are shown by model year in Figures 3-10. Bars show 95% confidence intervals for the average values. Results show a typical pattern of progressively lower emissions for newer models. Light truck models 1996-2000 had higher NO emissions.

**Figure 3-10: Private Passenger Vehicle and Light Truck Emissions**

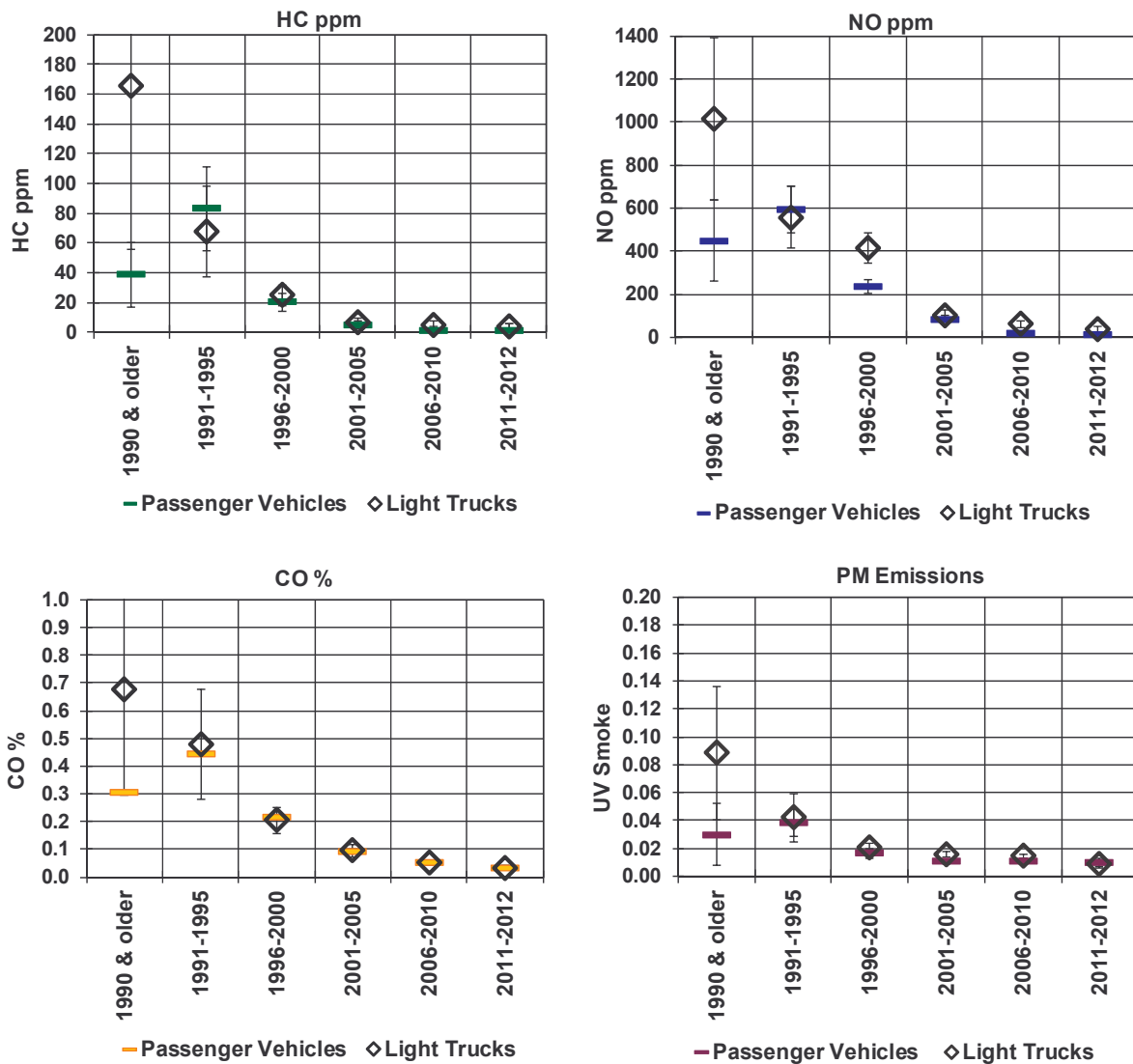
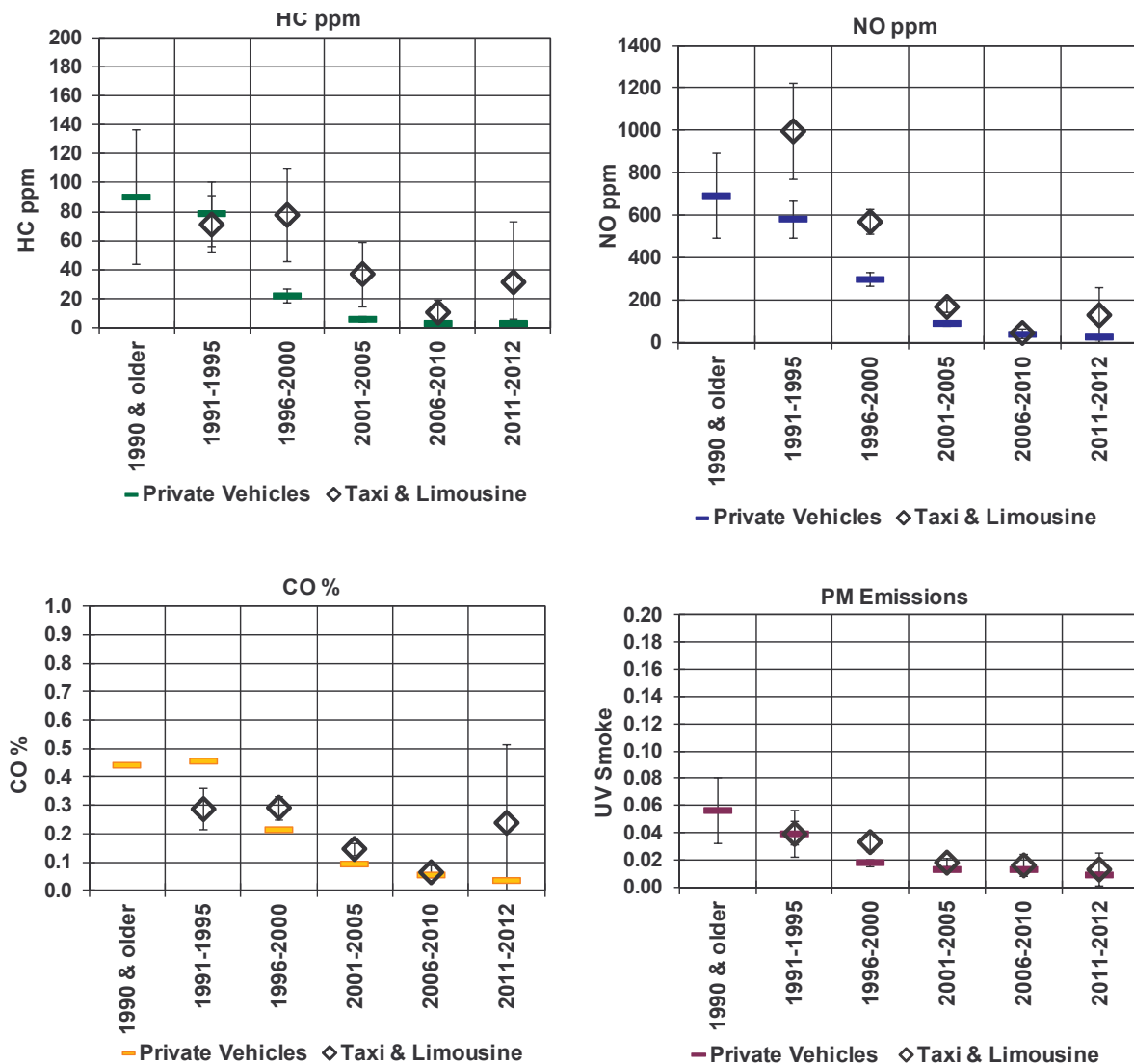


Figure 3-11 shows significant differences in emissions between private light vehicles and taxis and limousines – especially for NO and HC. The high emissions of 2011-12 models may be the result of plates being transferred from older models to newer models between the date the measurements were made and the date the plates were matched to registrations. This may be more common for taxis and limousines.

The differences for NO tend to increase with age and, presumably, odometer. The differences for HC do not show such an obvious trend and it is unexpected that HC emissions of 1991-1995 model and 1996-2000 model taxis appear to be similar (although there is a wide range of uncertainty).

The emissions of taxis by fuel type in Table 3-5 did not explain high HC emissions. We wonder if there were a significant number of CNG conversions.

**Figure 3-11: Average Emissions of Taxis and Private Vehicles by Age**

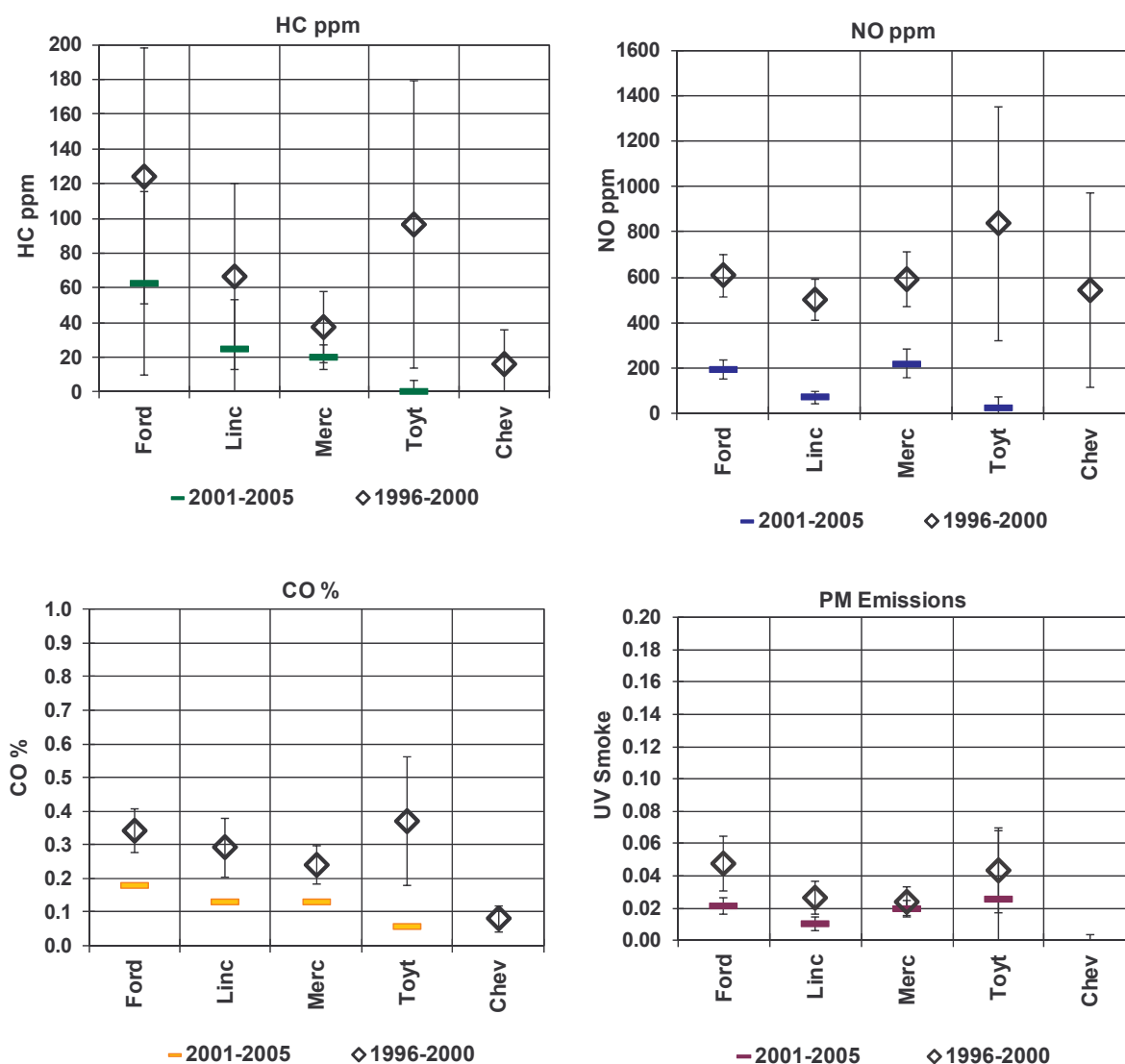


A majority of taxis were Ford, Lincoln or Mercury. The make and age groups shown in Figure 3-12 accounted for 895 of the 1,244 taxi and limousine measurements. There appeared to be considerable variation in the HC emissions but larger samples would be required to make draw definitive conclusions.

**Table 3-5: Taxi & Limousine Emissions by Fuel Type**

Fuel Type	Vehicle Type	N	CO	HC	NO	UV Smoke	VSP
Hybrid	Passenger Vehicle	26	0.12	22	51	0.036	14.0
Flex	Passenger Vehicle	56	0.05	10	72	0.013	12.4
Flex	Light Truck	8	0.14	3	419	0.017	12.2
Gasoline	Passenger Vehicle	1,055	0.20	51	327	0.024	11.9
Gasoline	Light Truck	99	0.10	17	146	0.015	11.8
<b>Total</b>		<b>1,244</b>	<b>0.18</b>	<b>46</b>	<b>296</b>	<b>0.023</b>	<b>11.9</b>

**Figure 3-12: Average Emissions of Taxis by Make and Age Group**



## 4. High Emitter Rates

High emitters were identified using cutpoints of 500ppm HC, 3% CO, 2,000ppm NO and 0.75 RSD smoke factor. These definitions of high emitters are, admittedly, somewhat arbitrary. They do not reflect any particular standards such as might be used in an inspection and maintenance program and are several times higher than ASM standards for 1996 and newer vehicles. For example, ASM standards for 1996 and newer model 4000lb vehicles are 71-112 ppm HC, 0.39-0.6 % CO and 553-829 ppm NO for LDGV and LDGT.

Of the vehicles measured on-road that were identified by plate and matched to a DC registration, 71 (1.3%) exceeded one or more of the pollutant cutpoints (Table 5-1).

Table 5-2 shows the combinations of cutpoints that were exceeded. With these cutpoints a majority of the vehicles identified as high emitters were selected for high NO. Most vehicles were identified for a single pollutant.

Eleven of the high emitters had a model of "Crown Vic Police Intrcptr". Twenty-eight of the high emitters were taxis or limousines.

**Table 5-1: High Emitters**

	Count
RSD measurements exceeding one or more cutpoints	71
Emissions cutpoints exceeded:	
HC 500 ppm hexane	22
CO 3%	8
NO 2000ppm	42
UV Smoke Factor 0.75	1
Total Cutpoints Exceeded	73

**Table 5-2 Higher Emitters by Pollutant**

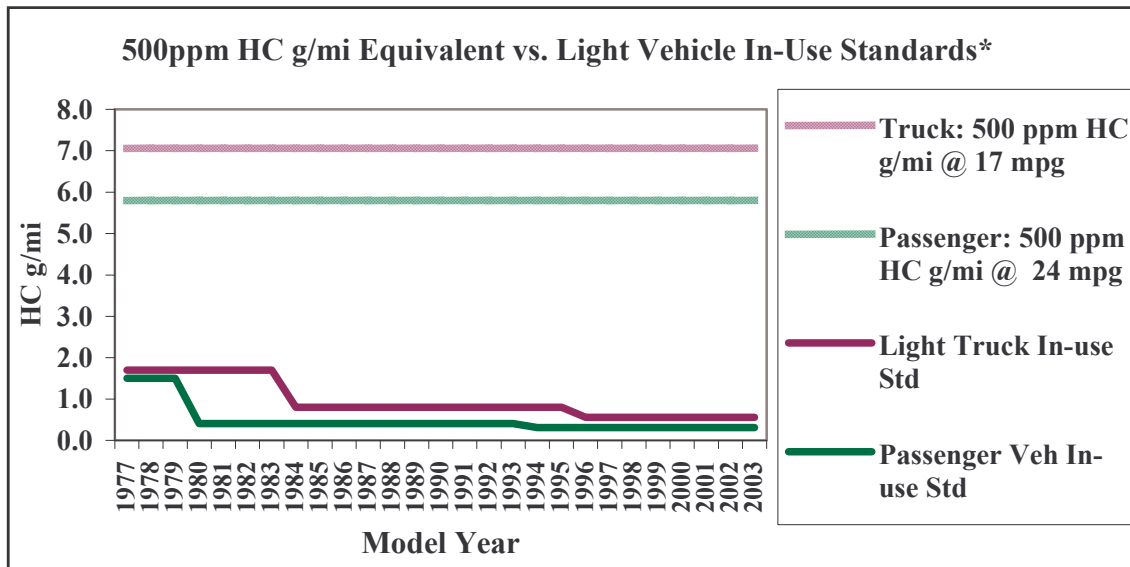
<b>HE Cutpoint Exceedance Combinations</b>	<b>Count</b>
Single pollutant:	
HC Only	20
CO Only	6
NOx Only	42
Smoke Only	1
Two Pollutants:	
HC & CO Only	2
HC & NO Only	0
CO & NO Only	0
HC & Smoke Only	0
CO & Smoke Only	0
NO & Smoke Only	0
Three Pollutants:	
HC & CO & NOx	0
HC, CO & Smoke	0
HC, NOx & Smoke	0
CO, NOx & Smoke	0
All pollutants:	
HC, CO, NOx & Smoke	0
Total	71

#### **4.1. High Emitter Cutpoints vs. In-Use Standards**

Figures 5-1 to 5-4 illustrate the relationship of the adopted RSD high emitter cutpoints to vehicle in-use standards. We only show standards through 2003 models. Standards for newer models are the same or lower. The precise g/mi equivalents for RSD g/gal emissions values depend on vehicle fuel economy. Typical average values of 24 mpg for light passenger vehicles and 17 mpg for light trucks were used in these Figures.

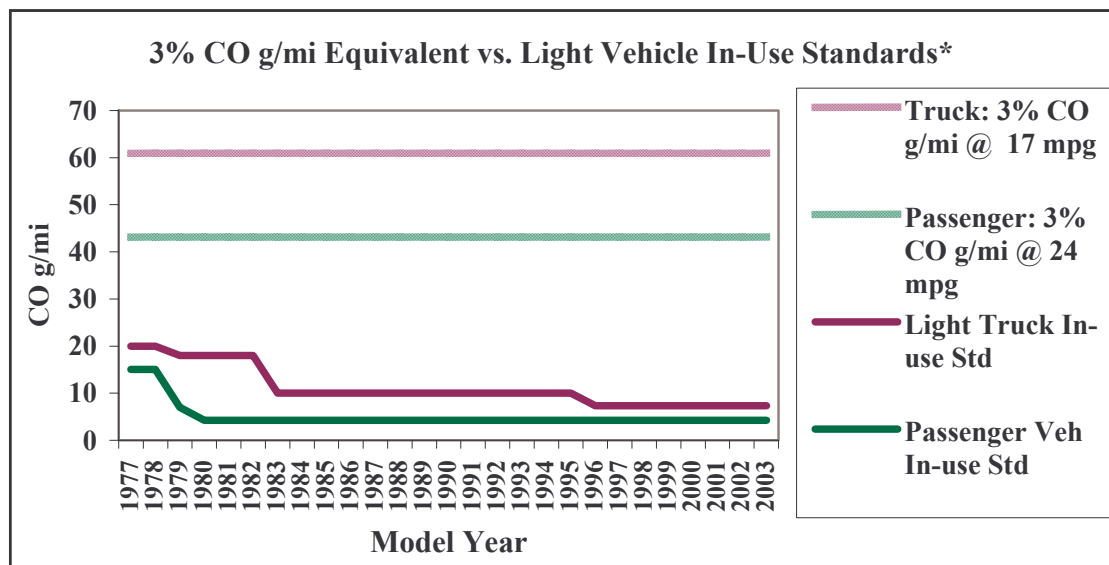
In all cases, the selected high emitter cutpoints far exceed the in-use standards.

**Figure 5-1 High Emitter HC vs. In-Use Standards**



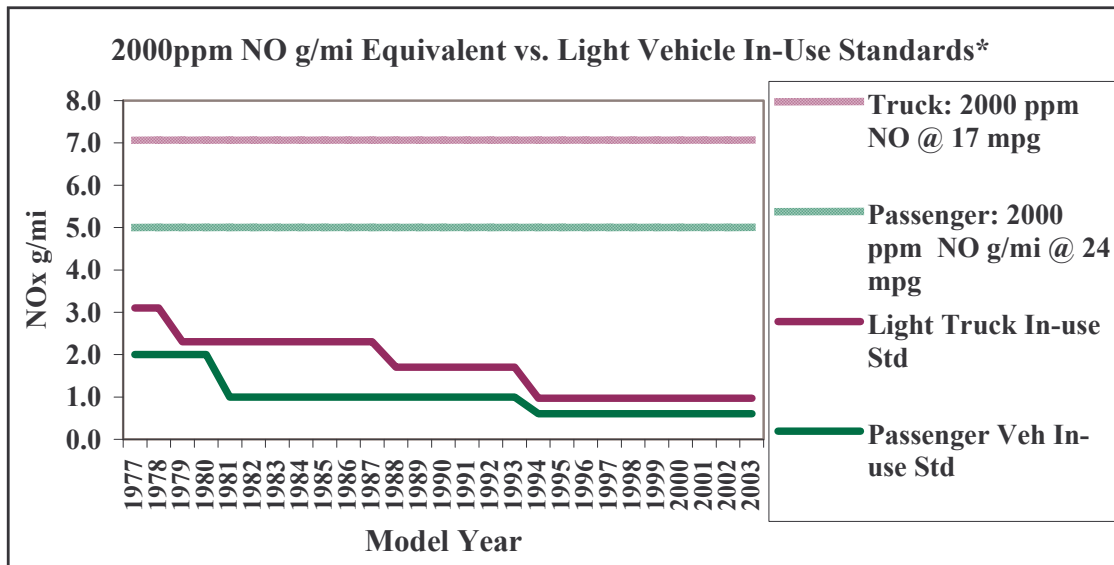
\* Simplified. In-use 10/100 or 11/120 after 1993. Truck: LDT>5,750 lbs test weight.

**Figure 5-2 High Emitter CO vs. In-Use Standards**



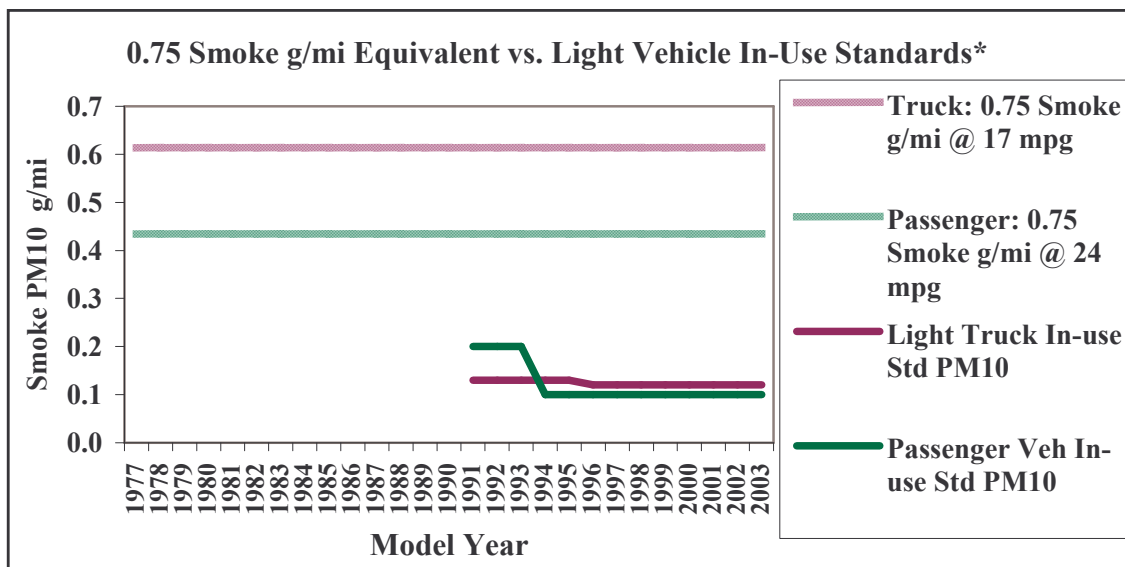
\* Simplified. In-use 10/100 or 11/120 after 1993. Truck: LDT>5,750 lbs test weight.

**Figure 5-3 High Emitter NOx vs. In-Use Standards**



\* Simplified. In-use 10/100 or 11/120 after 1993. Truck: LDT>5,750 lbs test weight.

**Figure 5-4 High Emitter vs. PM10 In-Use Standards**



\* Simplified. In-use 10/100 or 11/120 after 1993. Truck: LDT>5,750 lbs test weight.

#### 4.2. High Emitter Rates

Figure 5-5 shows the number of high emitters by model year. The greatest numbers of high emitters were 1988-2000 models. High emitter rates varied dramatically by model year, with the oldest models having rates of over 12% and the newest five models have

a rate of less than 0.2% (Figure 5-6). Fortunately, relatively few of the oldest models remain in operation.

There appears to be a step down in the rate of high emitters between the 2000 and 2001 model. This coincides with the step down in number of OBD I/M optional readiness code exemptions from two monitors to one monitor not being set.

**Figure 5-5: Number of High Emitters by Model Year**

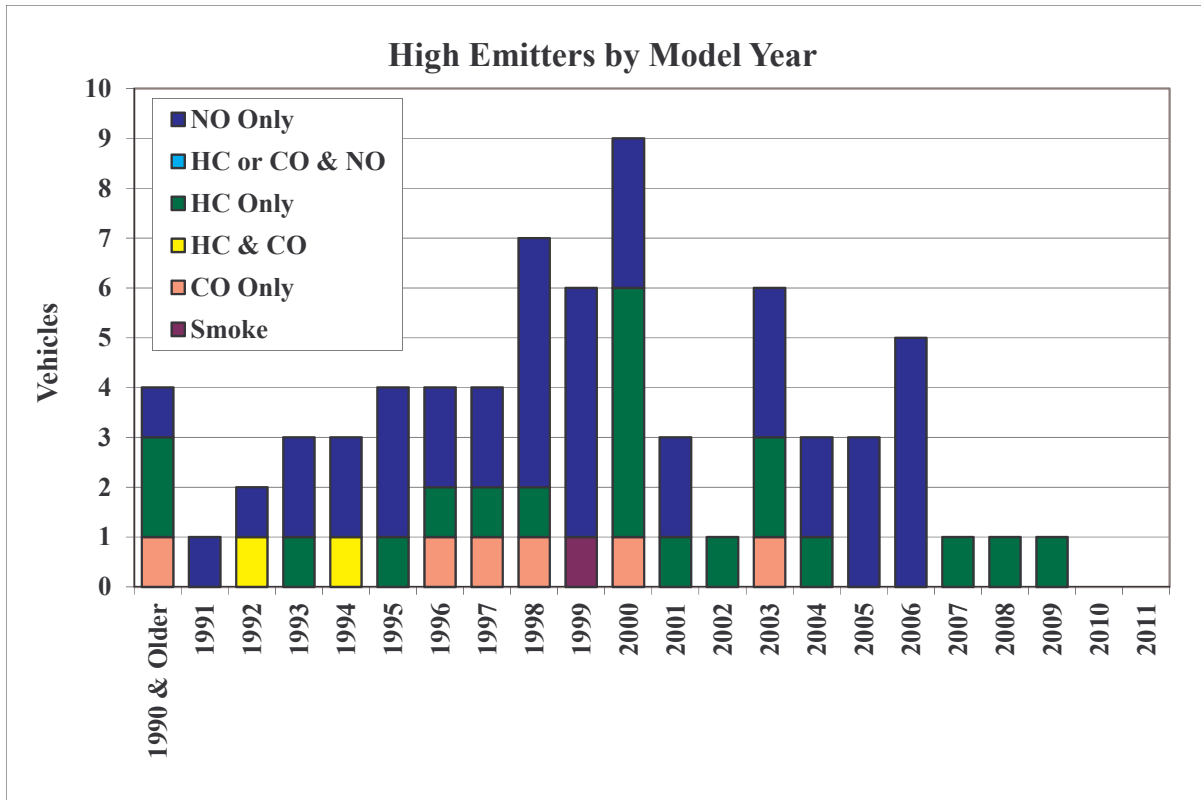
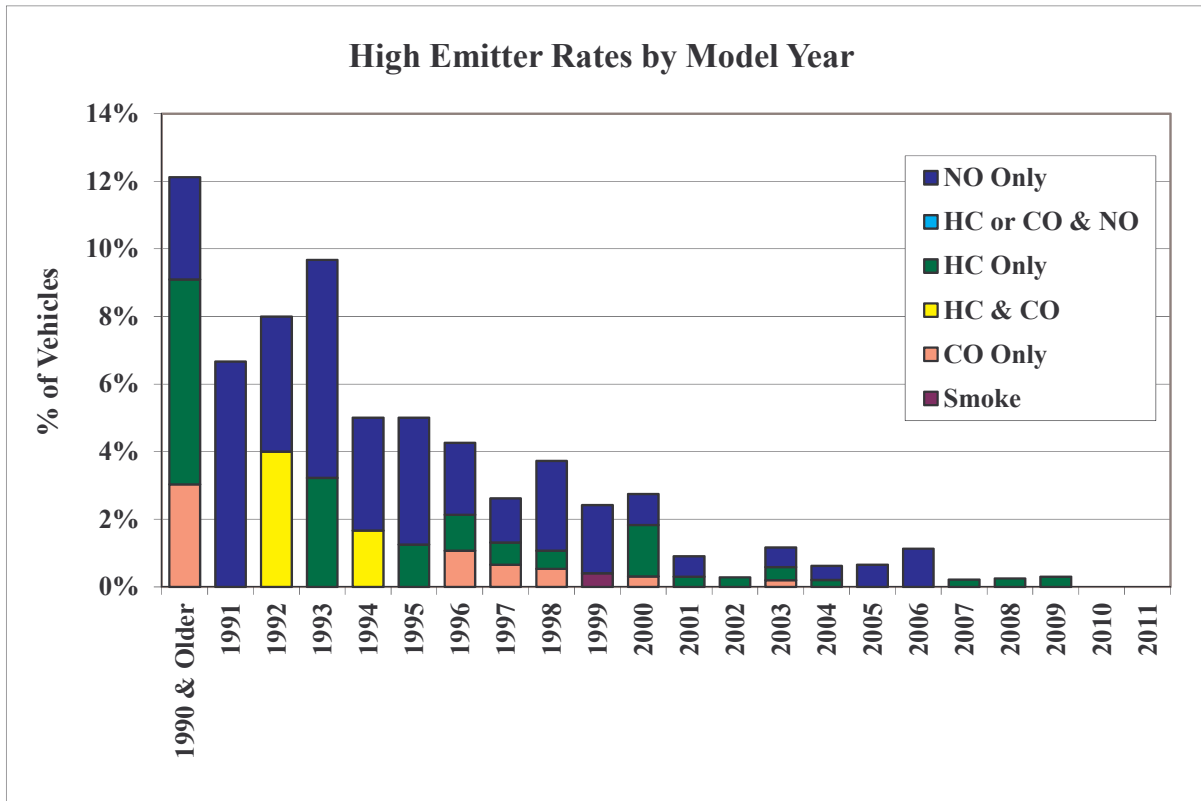


Figure 5-6: Percent of High Emitters by Model Year



## 5. CONCLUSIONS

Following are the key conclusions drawn from this analysis:

- Over 7,000 DC registered vehicles were measured on-road at the sites in northern Virginia.
- DC registered average light vehicle emissions were 0.12% CO, 17 ppm HC and 150 ppm NO.
- Emissions of CO, HC and NO were 62%, 73% and 52% lower respectively in 2011 than in 2002.
- Taxis have higher emissions than other light vehicles. They were older than average and had higher HC and NO<sub>x</sub> emissions than other vehicles of the same age.
- Allowed OBD I/M readiness code exemptions for 1996 to 2001 models may need to be reviewed.

# References

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<sup>1</sup> “Washington, DC 2002 Remote Sensing Survey”, ESP report, April 2003

<sup>2</sup> “Washington, DC 2009-2010 Remote Sensing Survey”, ESP report, April 2010